

LONDON- WEST MIDLANDS ENVIRONMENTAL STATEMENT

Volume 5 | Technical Appendices

CFA26 | Washwood Heath to Curzon Street
Construction assessment (SV-003-026)
Sound, noise and vibration

November 2013

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Department
for Transport

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High Speed Two (HS2) Limited,
Eland House,
Bressenden Place,
London SW1E 5DU

Details of how to obtain further copies are available from HS2 Ltd.

Telephone: 020 7944 4908

General email enquiries: HS2enquiries@hs2.org.uk

Website: www.hs2.org.uk

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Appendix SV-003-026

Environmental topic:	Sound, noise and vibration	SV
Appendix name:	Construction assessment	003
Community forum area:	Washwood Heath to Curzon Street	026

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1 Introduction

- 1.1.1 The sound, noise and vibration appendices comprise four sections. The first of these is an introduction to the relevant policy and methodology (Volume 5: Appendix SV-001-000). This relates to the sound, noise and vibration assessment for all community forum areas (CFA).
- 1.1.2 For the Washwood Heath to Curzon Street community forum area (CFA26), the other three sections are as follows:
- baseline sound, noise and vibration (Volume 5: Appendix SV-002-026);
 - construction sound, noise and vibration (Volume 5: Appendix SV-003-026) (this appendix); and
 - operational sound, noise and vibration (Volume 5: Appendix SV-004-026).
- 1.1.3 The outcomes of the assessment are summarised in Volume 2: Section 11 Sound, noise and vibration.
- 1.1.4 Maps referred to throughout the sound, noise and vibration appendices are contained in the Volume 5: Map Book, Sound, noise and vibration.
- 1.1.5 This appendix presents the likely noise and vibration impacts, effects and significant effects arising from the construction of the Proposed Scheme for the Washwood Heath to Curzon Street area on:
- people, primarily where they live ('residential receptors') in terms a) individual dwellings and b) on a wider community basis, including any shared community open areas; and
 - community facilities such as schools, hospitals, places of worship, and also commercial properties such as offices and hotels, collectively described as 'non-residential receptors' and 'quiet areas'.
- 1.1.6 The assessment of likely impacts, effects and significant effects from construction noise and vibration on community, ecological or cultural heritage receptors and the assessment of tranquillity are presented in the following documents:
- Community data (Volume 5: Appendix CM-001-026);
 - Ecology appendices (Volume 5: Appendix EX-001-004, Appendix EC-002-004, EC-003-004 and Appendix EC-005-004);
 - Cultural heritage: Impact assessment table (Volume 5: Appendix CH-003-026); and
 - Landscape report (Volume 5: Appendix LV-001-026).

1.2 Evaluation of impacts and effects

- 1.2.1 This appendix provides a quantitative assessment of construction noise and vibration impacts/effects and a qualitative assessment of likely significant effects, based on the impacts/effects identified and other local context information consistent with the scope and methodology defined for the Proposed Scheme.

- 1.2.2 Indirect effects arising from temporary changes in traffic patterns on the existing road network as a consequence of constructing the Proposed Scheme are also reported in this appendix, where they are likely to occur within the study area as defined in Volume 5: Appendix SV-001-000.
- 1.2.3 In undertaking the assessment of sound and vibration, consistent with Environmental Impact Assessment (EIA) Regulations (see Volume 1, Section 1.3) and emerging National Planning Practice Guidance¹ a differentiation between impacts, effects, adverse effects and significant effects is made. Further information is provided in Volume 5: Appendix SV-001-000.
- 1.2.4 The assessment of impacts and effects has been undertaken at assessment locations that are representative of a number of dwellings or other sensitive receptors. The assessment locations employed in this assessment are presented on Volume 5: Map Series Sv-03.

¹ Information is provided in the Department for Communities and Local Government's emerging National Planning Practice Guidance – Noise <http://planningguidance.planningportal.gov.uk>, (refer to the noise exposure hierarchy), as available on 14th October 2013

2 Scope, assumptions and limitations

2.1 Regional and local policy guidance

- 2.1.1 The policy framework for sound, noise and vibration is set out in Volume 1 and in Volume 5: Appendix SV-001-000. As part of the engagement with local authorities through the Planning Forum Sub Group - Acoustics, information regarding any specific local planning guidance in respect of noise and vibration has been requested. Whilst no information has been received for this study area via the Planning Forum Sub Group - Acoustics, the Birmingham Unitary Development Plan (2005)² has been identified for local policy guidance on noise and vibration.
- 2.1.2 This guidance has been considered as part of formulating the detailed application of the impact and significance criteria set out in Volume 5: Appendix SV-001-000.

2.2 Engagement

- 2.2.1 Details of engagement on a route-wide basis with the local and county authorities' Environmental Health Practitioners via the Planning Forum Sub Group - Acoustics, is set out in Volume 1.
- 2.2.2 Engagement with communities has been via the Community Forums, as set out in Volume 1. In respect of sound, noise and vibration the following discussions have taken place:
- general discussions in respect of local issues, including possible ways to avoid and mitigate the potential impacts of noise or vibration;
 - September/October 2012; a specific presentation about sound, noise and vibration with discussion afterwards with one of the project team specialists;
 - November/December 2012; specific request for the community forum to propose baseline sound monitoring locations;
 - January/February 2013; feedback to the community forum on any proposed baseline monitoring locations; and
 - verbal/written response to questions and sound, noise and vibration.

2.3 Methodology

- 2.3.1 The methodology used for the assessment of airborne sound, ground-borne sound and vibration impacts and the determination of significant effects is defined in the Scope and Methodology Report (SMR) (Volume 5: Appendix CT-001-000/1), is clarified in a number of areas by the SMR addendum (Volume 5: Appendix CT-001-000/2). Further information is contained in Volume 5: Appendix SV-001-000.

² Birmingham City Council, (2005), *Birmingham Unitary Development Plan*.

2.4 Assumptions

- 2.4.1 Route-wide assumptions are outlined in Volume 1 and are further detailed in Volume 5: Appendix SV-001-000. Local assumptions that apply to the assessment of construction sound noise and vibration within this area are set out Volume 2: Washwood Heath to Curzon Street (CFA Report 26), Section 11.

2.5 Limitations

- 2.5.1 The route-wide limitations and the approach adopted to assure that they will not impact the robust assessment of sound, noise and vibration are presented in Volume 5: Appendix SV-001-000. No specific additional limitations are identified for this study area.

3 Environmental Baseline

Existing baseline

- 3.1.1 Baseline sound level data has been collected at locations representative of the airborne sound-sensitive receptors. The existing and future baseline airborne sound levels derived from these measurements are given in Volume 5: Appendix SV-002-026. Details of the baseline data collection and the methodology are given in Volume 5: Appendix SV-001-000 and specifically for this study area in Volume 5: Appendix SV-002-026.

Future baseline

- 3.1.2 The assessment of noise from construction activities assumes a baseline year of 2017 which represents the period immediately prior to the start of the construction period. As a reasonable worst case, it has been assumed that no change in baseline sound levels will occur between the existing baseline (2012/13) and the future baseline year of 2017. The assessment of noise from construction traffic assumes a baseline year of 2021, representative of the middle of the construction period when the construction traffic flows are expected to be at their peak. Further information can be found in the Traffic and transport assessment (Volume 5: Appendix TR-001-026).

4 Effects arising during construction

4.1 Introduction

4.1.1 The assessment is reported first for ground-borne vibration and then for airborne sound. Under each of these headings, the results of the quantitative identification of impacts and effects are presented. This is followed by the identification of significant effects and the evidence used to support these conclusions.

4.1.2 The structure of this assessment report is:

- avoidance and mitigation measures;
- quantitative identification of impact and effects:
 - ground-borne vibration;
 - residential; and
 - non-residential.
 - airborne sound;
 - residential; and
 - non-residential.
- assessment of impacts and effects:
 - residential receptors: direct effects – dwellings;
 - residential receptors: direct effects – communities;
 - residential receptors: indirect effects;
 - non-residential receptors: direct effects;
 - non-residential receptors: indirect effects; and
 - cumulative effects from the Proposed Scheme and other committed development.

4.2 Avoidance and mitigation measures

4.2.1 These are set out in Volume 2: Washwood Heath to Curzon Street (CFA Report 26), Section 11.

4.3 Quantitative identification of impacts and effects

Ground-borne vibration

4.3.1 Assessment locations defined for the quantitative assessment of impacts are shown on Volume 5: Map Series SV-03.

- 4.3.2 For each Assessment Location, the assessment results for residential and non-residential receptors are presented in Table 1. Explanation of the information in Table 1 is provided in Volume 5: Appendix SV-001-000, with the following additional notes:

	Where the significant effect column is highlighted, then a significant effect is identified at the referenced community, or individual receptor
*	Significant effect – the quantitative impact methodology has identified either: <ol style="list-style-type: none"> 1) no impact at this receptor but further information (see assessment) has identified that a significant effect is nonetheless likely; or 2) an impact at this receptor which, based upon further qualitative receptor information, (see assessment text) does not give rise to a significant effect
~	Significant effect - The forecast adverse effects are not considered to be significant on a community basis (further information on methodology is provided in Volume 5: Appendix SV-001-000)
A	Type of effect – adverse effect
S	Type of effect – significant adverse effect
NA	Type of effect – generally no adverse effect
B	Type of effect – for non-residential receptors further detail about the type of effect is set out in the text of Volume 5, Appendix SV-001-000
R	Type of receptor – residential
V1	Type of receptor – (V1) vibration sensitive research and manufacturing, hospital, and university equipment, (V2) hotels, hospital wards and education dormitories, (V3) offices, schools and places of worship, (V4) workshops
T	Receptor design – typical
S	Receptor design – special

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Table 1: Assessment of construction induced ground-borne vibration at residential receptors

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Peak particle velocity (PPV) [mm/s] on foundation	Typical/highest monthly indoor vibration dose value (VDV) [m/s ^{1.75}]		Construction activity resulting in highest forecast vibration levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
			Day 0700-2300	Night 2300-0700											
69289	Warren Road, Washwood Heath, Birmingham	0.15	0.05/0.05	-	Depot earthworks cut	NA	23	R	T	-	-	N	-	-	
68797	Warren Road, Washwood Heath, Birmingham	0.21	0.06/0.06	-	Depot earthworks cut	NA	59	R	T	-	-	N	-	-	
75669	Drews Lane, Birmingham	0.16	0.08/0.08	-	Depot watercourse construction	NA	12	R	T	-	-	N	-	-	
75715	Drews Lane, Birmingham	0.17	0.08/0.08	-	Depot watercourse construction	NA	11	R	T	-	-	N	-	-	
62306	The Sportsman Public House, Saltley Road, Birmingham	0.15	0.07/0.07	-	Earthworks	NA	1	R	T	-	-	N	-	-	
51814	Northumberland Street, Birmingham	0.31	0.14/0.14	-	Earthworks	NA	51	R	T	-	-	N	-	-	
45327	The Woodman Public House, Curzon Street, Birmingham	1.98	0.07/0.64	-	Earthworks	A	1	R	T	-	-	Y	3	-	~
700501	Albert Street, Birmingham	0.17	0.07/0.07	-	Earthworks	NA	335	R	T	-	-	N	-	-	
42269	Carrs Lane, Birmingham	0.37	0.14/0.14	-	Earthworks	NA	47	R	T	-	-	N	-	-	
700500	Bordesley Street, Birmingham	0.14	0.05/0.05	-	Earthworks	NA	10	R	T	-	-	N	-	-	

Assessment location		Impact criteria			Significance criteria										Significant effect
ID	Area represented	Peak particle velocity (PPV) [mm/s] on foundation	Typical/highest monthly indoor vibration dose value (VDV) [$\text{m/s}^{1.75}$]		Construction activity resulting in highest forecast vibration levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
41354	New Bartholomew Street, Birmingham	0.38	Day 0700-2300	Night 2300-0700	Earthworks	NA	3	R	T	-	-	N	-	-	

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Table 2: Assessment of construction induced ground-borne vibration at non-residential receptors

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	PPV [mm/s] on foundation	Typical/highest monthly indoor VDV [m/s ^{1.75}]		Construction activity resulting in highest forecast vibration levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
			Day 0700-2300	Night 2300-0700											
66559	Car showroom (Star Park South), Heartlands Parkway, Birmingham	0.74	0.25/0.25	-	Bromford tunnel vibratory piling	B	1	V3	T	-	-	N	-	-	
700511	Masjid Ali Project Mosque, Aston Church Road, Birmingham	0.85	0.06/0.32	-	Earthworks	B	3	V3	T	-	-	N	-	-	
69846	Hasanat College, Leigh Road, Washwood Heath, Birmingham	0.45	0.14/0.14	-	Depot earthworks cut	B	1	V3	T	-	-	N	-	-	
75715	Retail unit, Drews Lane, Birmingham	0.17	0.08/0.08	-	Depot watercourse construction	B	1	V3	T	-	-	N	-	-	
75527	Industrial units, Drews Lane, Birmingham	0.68	0.27/0.27	-	Earthworks	B	4	V3	T	-	-	N	-	-	
62306	Industrial units, Cato Street North, Birmingham	0.15	0.07/0.07	-	Earthworks	B	12	V3	T	-	-	N	-	-	
62720	Mainstream 47 Industrial Park, Mainstream Way, Birmingham	0.15	0.06/0.06	-	Earthworks	B	15	V3	T	-	-	N	-	-	
35948	Network Park industrial estate (north), Duddeston Mill Road, Saltley, Birmingham	1.98	0.65/0.65	-	Earthworks	B	6	V3	T	-	-	Y	4	-	CSV26-No3


Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	PPV [mm/s] on foundation	Typical/highest monthly indoor VDV [m/s ^{1.75}]		Construction activity resulting in highest forecast vibration levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
			Day 0700-2300	Night 2300-0700											
60102	Saltley Business Park, Dorset Road, Saltley, Birmingham	1.77	0.59/0.59	-	Earthworks	B	4	V3	T	-	-	Y	2	-	CSV26-No3
36091	Network Rail Control Centre, Duddeston Mill Road, Vauxhall, Birmingham	0.39	0.19/0.19	-	Earthworks	B	1	V3	T	-	-	N	-	-	
37341	Duddeston Mill Trading Estate, Duddeston Mill Road, Saltley, Birmingham	0.26	0.15/0.15	-	Earthworks	B	2	V3	T	-	-	N	-	-	
57184	Duddeston Mill Trading Estate (South), Duddeston Mill Road, Saltley, Birmingham	0.19	0.11/0.11	-	Earthworks	B	11	V3	T	-	-	N	-	-	
57122	Duddeston Mill Trading Estate (North), Duddeston Mill Road, Saltley, Birmingham	0.20	0.10/0.10	-	Earthworks	B	5	V3	T	-	-	N	-	-	
35848	Network Park Industrial Estate (south), Duddeston Mill Road, Saltley, Birmingham	1.98	0.72/0.72	-	Earthworks	B	3	V3	T	-	-	Y	2	-	CSV26-No3
50326	Nechells Business Centre (north), Dollman Street,	0.23	0.12/0.12	-	Earthworks	B	9	V3	T	-	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	PPV [mm/s] on foundation	Typical/highest monthly indoor VDV [m/s ^{1.75}]		Construction activity resulting in highest forecast vibration levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
			Day 0700-2300	Night 2300-0700											
	Birmingham														
700507	Birmingham City Council Museum Collection Centre, Dollman Street, Birmingham	1.32	0.13/0.46	-	Earthworks	B	1	V1	S	-	-	Y	2	-	CSV26-No4
51904	Industrial units, Erskine Street, Birmingham	0.53	0.22/0.22	-	Earthworks	B	4	V3	T	-	-	N	-	-	
37938	Safeside at Eastside, Vauxhall Road, Birmingham	0.47	0.20/0.20	-	Earthworks	B	1	V3	T	-	-	N	-	-	
700505	West Midlands Fire Service Headquarters offices and commercial units, St James Place, Birmingham	1.77	0.58/0.58	-	Earthworks	B	2	V3	T	-	-	Y	1	-	CSV26-No5
41588	Andover Street, Birmingham	0.56	0.21/0.22	-	Earthworks	B	8	V3	T	-	-	N	-	-	
700503	Hotel La Tour, Moor Street Queensway, Birmingham	0.23	0.09/0.09	-	Earthworks	B	1	V2	T	-	-	N	-	-	
42269	Carrs Lane Church and St Michaels Church, Carrs Lane, Birmingham	0.37	0.14/0.14	-	Earthworks	B	50	V3	T	-	-	N	-	-	
41993	Taboo Cinema, Park Street, Birmingham	0.51	0.19/0.19	-	Earthworks	B	9	V3	T	-	-	N	-	-	

Assessment location		Impact criteria			Significance criteria										Significant effect
ID	Area represented	PPV [mm/s] on foundation	Typical/highest monthly indoor VDV [m/s ^{1.75}]		Construction activity resulting in highest forecast vibration levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
			Day 0700-2300	Night 2300-0700											
700500	Polish Catholic Association, Bordesley Street, Birmingham	0.14	0.05/0.05	-	Earthworks	B	3	V ₃	T	-	-	N	-	-	
41354	New Bartholomew Street / Bordesley Street, Birmingham	0.38	0.15/0.15	-	Earthworks	B	9	V ₃	T	-	-	N	-	-	

Airborne sound: direct impacts and effects

- 4.3.3 Activities associated with the construction phases of the Proposed Scheme will generate airborne noise. The assessment of the likely impacts and significant effects as a result of the construction noise has considered the effects on:
- residential receptors, both as individual dwellings and communities;
 - non-residential receptors, including quiet areas;
- 4.3.4 For each type of receptor, subject to the screening distances identified, and based upon supplied plant information from engineers, the typical and highest monthly $L_{Aeq,T}$ noise levels from construction activities have been calculated at the façade of all assessment locations, which are representative of a number of receptors in the study area.
- 4.3.5 The assessment results, impact criteria and significance criteria for the assessment of the Proposed Scheme at residential and non-residential receptors are presented in Table 3 and Table 4 respectively.
- 4.3.6 Explanation of the information within Table 3 and Table 4 is provided in Volume 5: Appendix SV-001-000, with the following additional notes:

 Where the significant effect column is highlighted, then a significant effect is identified at the referenced community, or individual receptor

- * Significant effect – the quantitative impact methodology has identified either:
- 1) no impact at this receptor but further information (see assessment) has identified that a significant effect is nonetheless likely; or
 - 2) an impact at this receptor which, based upon further qualitative receptor information, (see assessment text) does not give rise to a significant effect
- ~ Significant effect - The forecast adverse effects are not considered to be significant on a community basis (further information on methodology is provided in Volume 5: Appendix SV-001-000)
- A Type of effect – adverse effect
- S Type of effect – significant adverse effect
- NA Type of effect – not generally an adverse effect
- B Type of effect – for non-residential receptors further detail about the type of effect is set out in the text of Appendix SV-001-000
- R Type of receptor - residential
- G Type of receptor - (G1) theatres, large auditoria and concert halls, (G2) sound recording and broadcast studios, (G3) places of meeting for religious worship, courts, cinemas, lecture theatres, museums and small auditoria or halls, (G4) schools, colleges, hospitals, hotels and libraries, and (G5) offices and general commercial premises
- T Receptor design – typical
- S Receptor design - special
- H Existing environment – high existing ambient noise levels, day >75 dB, evening >65 dB or night >55 dB L_{pAeq} at the facade

- L Existing environment – low existing ambient noise levels, day and evening ≤ 45 dB, or night ≤ 35 dB L_{pAeq} at the facade
- D,E,N Impact duration (months) – duration of impact during the day (D), evening (E) or night (N)
- NI Mitigation effect - identified as likely to qualify for noise insulation under the draft CoCP

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Table 3: Assessment of construction noise at residential receptors

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
36358	Mill Burn Way, Birmingham	50/54 [A]	40/42 [C]	43/48 [C]	Day: demolition; Eve: classic rail track laying Duddeston Mill Road; Night: Curzon Street No.3 viaduct deck	NA	143	R	T	-	-	N	-	-	
36618	Moor Street Queensway, Birmingham	62/72 [C]	-	44/47 [C]	Day: demolition; Night: Curzon Street No.3 viaduct deck	NA	57	R	T	H	-	N	-	-	
38276	Temple Row, Birmingham	43/51 [A]	-	36/39 [C]	Day: demolition; Night: Curzon Street No.3 viaduct deck	NA	27	R	T	-	-	N	-	-	
40462	Allison Street, Birmingham	55/65 [B]	-	38/40 [C]	Day: demolition; Night: Curzon Street No.3 viaduct deck	NA	3	R	T	H	-	N	-	-	
40791	Oxford Street, Birmingham	47/55 [B]	-	37/40 [C]	Day: demolition; Night: Curzon Street No.2 viaduct deck	NA	2	R	T	H	-	N	-	-	
41264	Fazeley Street, Birmingham	60/69 [C]	<40/<40 [C]	48/51 [C]	Day: utility diversions; Eve: classic rail track recovery Duddeston Mill Road; Night: Curzon Street No.3 viaduct deck	NA	463	R	T	H	-	N	-	-	
41354	New Bartholomew	66/75 [B]	-	46/49 [C]	Day: utility diversions; Night: Curzon Street No.3	A	3	R	T	H	-	N	D 7	-	CSV26-Co7

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L_{pAeq} [dB] [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
	Street, Birmingham				viaduct deck										
42018	Digbeth, Birmingham	<40/46 [C]	-	<35/<35 [C]	Day: demolition; Night: Curzon Street No.3 viaduct deck	NA	2	R	T	H	-	N	-	-	
42114	Rotunda and New Street, Birmingham	<40/45 [A]	-	<35/<35 [C]	Day: demolition; Night: Curzon Street No.3 viaduct deck	NA	304	R	T	-	-	N	-	-	
42269	Carrs Lane, Birmingham	63/74 [C]	-	42/45 [C]	Day: demolition; Night: Curzon Street No.3 viaduct deck	NA	47	R	T	H	-	N	-	-	
42326	Dale End, Birmingham	42/50 [C]	-	<35/<35 [C]	Day: demolition; Night: Curzon Street No.3 viaduct deck	NA	34	R	T	H	-	N	-	-	
42359	High Street, Birmingham	49/58 [C]	-	<35/<35 [C]	Day: demolition; Night: Curzon Street No.3 viaduct deck	NA	122	R	T	H	-	N	-	-	
44620	Jennens Road, Birmingham	53/60 [B]	<40/<40 [C]	45/50 [C]	Day: demolition; Eve: classic rail track laying Duddeston Mill Road; Night: Curzon Street No.3 viaduct deck	NA	2	R	T	H	-	N	-	-	
45208	Jennens Road, Birmingham	54/63 [C]	-	<35/37 [C]	Day: Curzon Street station ground engineering; Night: install railway	NA	240	R	T	H	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
					protection barrier										
45327	The Woodman public house, Curzon Street, Birmingham	72/83 [B]	-	47/54 [C]	Day: Curzon Street station ground engineering; Night: install railway protection barrier	S	1	R	T	H	-	Y	D 25	NI	CSV26-Do1
46410	The Priory Queensway, Birmingham	59/68 [B]	-	46/49 [C]	Day: demolition; Night: Curzon Street No.3 viaduct deck	NA	52	R	T	H	-	N	-	-	
48796	Great Barr Street, Birmingham	56/60 [A]	<40/<40 [C]	49/53 [C]	Day: demolition; Eve: classic rail track laying Duddeston Mill Road; Night: Curzon Street No.3 viaduct deck	NA	3	R	T	-	-	N	-	-	
48817	Watery Lane Middleway, Bordesley, Birmingham	59/70 [C]	<40/<40 [C]	45/50 [C]	Day: road construction; Eve: classic rail track recovery Duddeston Mill Road; Night: Curzon Street No.3 viaduct deck	NA	2	R	T	H	-	N	-	-	
49547	Vauxhall Road, Birmingham	57/65 [C]	<40/41 [C]	46/53 [C]	Day: demolition; Eve: classic rail track recovery Duddeston Mill Road; Night: Curzon Street No.3 viaduct deck	NA	60	R	T	H	-	N	-	-	
49589	Hindlow Close, Birmingham	56/64 [B]	44/46 [C]	42/47 [C]	Day: demolition; Eve: classic rail track laying	NA	23	R	T	H	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
					Duddeston Mill Road; Night: classic rail track recovery Duddeston Mill Road										
49725	Ashted Walk, Birmingham	53/60 [A]	45/47 [A]	43/48 [C]	Day: demolition; Eve: classic rail track laying Duddeston Mill Road; Night: classic rail track laying Duddeston Mill Road	NA	31	R	T	-	-	N	-	-	
49870	Great Francis Street, Birmingham	51/57 [B]	44/45 [C]	42/47 [C]	Day: demolition; Eve: classic rail track laying Duddeston Mill Road; Night: classic rail track laying Duddeston Mill Road	NA	1	R	T	H	-	N	-	-	
50821	Barrack Street, Birmingham	48/56 [B]	<40/41 [B]	41/47 [C]	Day: demolition; Eve: classic rail track laying Duddeston Mill Road; Night: Curzon Street No.2 viaduct deck	NA	65	R	T	-	-	N	-	-	
50998	Duddeston Manor Road, Birmingham	54/60 [A]	42/44 [B]	44/50 [C]	Day: demolition; Eve: classic rail track laying Duddeston Mill Road; Night: Curzon Street No.3 viaduct deck	NA	183	R	T	-	-	N	-	-	
51047	Duddeston Manor Road, Birmingham	49/54 [B]	43/45 [C]	42/47 [C]	Day: demolition; Eve: classic rail track laying Duddeston Mill Road;	NA	200	R	T	H	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
					Night: classic rail track laying Duddeston Mill Road										
51814	Northumberland Street, Birmingham	61/71 [A]	43/45 [B]	57/64 [C]	Day: demolition; Eve: classic rail track laying Duddeston Mill Road; Night: Curzon Street No.2 viaduct deck	S	51	R	T	-	-	N	D 9; N 5	NI	CSV26-Co4
52180	A4540 Lawley Middleway, Birmingham	67/76 [C]	<40/<40 [C]	55/62 [C]	Day: road construction; Eve: classic rail track recovery Duddeston Mill Road; Night: Curzon Street No.3 viaduct deck	S	18	R	T	-	-	N	D 2; N 5	NI	CSV26-Co5
52201	Windsor Street South, Birmingham	57/64 [B]	<40/<40 [B]	46/53 [C]	Day: demolition; Eve: classic rail track recovery Duddeston Mill Road; Night: Curzon Street No.3 viaduct deck	NA	40	R	T	-	-	N	-	-	
52220	Vauxhall Road, Birmingham	62/68 [C]	<40/41 [C]	52/59 [C]	Day: demolition; Eve: classic rail track laying Duddeston Mill Road; Night: Curzon Street No.3 viaduct deck	S	32	R	T	-	-	N	N 5	NI	CSV26-Co5
52342	Barrack Street, Birmingham	54/60 [B]	41/43 [B]	47/53 [C]	Day: demolition; Eve: classic rail track laying Duddeston Mill Road; Night: Curzon Street No.2	NA	37	R	T	-	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
					viaduct deck										
52360	Vauxhall Road, Birmingham	53/59 [C]	43/45 [C]	44/49 [C]	Day: demolition; Eve: classic rail track laying Duddeston Mill Road; Night: Curzon Street No.2 viaduct deck	NA	12	R	T	H	-	N	-	-	
52398	Penn Street, and proposed Eastside Locks development, Birmingham	62/68 [A]	<40/<40 [B]	54/60 [C]	Day: demolition; Eve: classic rail track laying Duddeston Mill Road; Night: Curzon Street No.3 viaduct deck	S	2	R	T	-	-	N	D 7; N 5	NI	CSV26-Co6
53526	Bloomsbury Walk, Birmingham	52/61 [C]	40/45 [C]	40/47 [C]	Day: B4114 Saltley Viaduct bridge demolition; Eve: classic rail track laying Duddeston Mill Road; Night: B4114 Saltley viaduct deck	NA	88	R	T	H	-	N	-	-	
53805	Melvina Road, Birmingham	52/60 [C]	45/47 [C]	43/49 [C]	Day: B4114 Saltley Viaduct bridge demolition; Eve: classic rail track laying Duddeston Mill Road; Night: Duddeston junction viaduct deck	NA	66	R	T	H	-	N	-	-	
53993	Melvina Road, Birmingham	49/59 [C]	40/44 [C]	40/45 [C]	Day: B4114 Saltley Viaduct bridge demolition; Eve: classic rail track laying	NA	138	R	T	H	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
					Duddeston Mill Road; Night: Saltley canal underbridge deck										
54833	St. Saviours Road, Birmingham	51/60 [A]	44/46 [B]	41/46 [C]	Day: demolition; Eve: classic rail track laying Duddeston Mill Road; Night: classic rail track laying Duddeston Mill Road	NA	72	R	T	-	-	N	-	-	
54867	George Arthur Road, Birmingham	52/60 [A]	43/47 [B]	42/47 [C]	Day: B4114 Saltley Viaduct bridge demolition; Eve: classic rail track laying Duddeston Mill Road; Night: classic rail track laying Duddeston Mill Road	NA	116	R	T	-	-	N	-	-	
55784	Reginald Road, Birmingham	49/55 [A]	40/45 [C]	40/45 [C]	Day: demolition; Eve: classic rail track laying Duddeston Mill Road; Night: Duddeston junction viaduct deck	NA	164	R	T	-	-	N	-	-	
56716	City View, Birmingham	52/57 [A]	47/49 [A]	45/51 [B]	Day: demolition; Eve: classic rail track laying Duddeston Mill Road; Night: Duddeston junction viaduct deck	A	74	R	T	-	-	N	N 1	-	*
56870	Ashley Gardens, Birmingham	55/60 [A]	45/50 [A]	45/51 [B]	Day: demolition; Eve: classic rail track laying	A	16	R	T	-	-	N	N 2	-	*

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
					Duddeston Mill Road; Night: Duddeston junction viaduct deck										
57289	Adderley Road, Birmingham	57/63 [C]	48/52 [C]	48/55 [C]	Day: utility diversions; Eve: classic rail track laying Duddeston Mill Road; Night: Duddeston junction viaduct deck	NA	49	R	T	H	-	N	-	-	
57342	Adderley Road, Birmingham	50/56 [B]	46/47 [C]	42/48 [C]	Day: demolition; Eve: classic rail track laying Duddeston Mill Road; Night: classic rail track laying Duddeston Mill Road	NA	36	R	T	-	-	N	-	-	
57363	Lock Keepers Cottage, Crawford Street, Birmingham	59/72 [A]	41/46 [C]	43/51 [C]	Day: utility diversions; Eve: classic rail track recovery Duddeston Mill Road; Night: B4114 Saltley viaduct deck	A	1	R	T	H	-	N	D 4	-	~
58294	Wolseley Street, Bordesley, Birmingham	52/59 [A]	45/47 [C]	45/50 [C]	Day: demolition; Eve: classic rail track laying Duddeston Mill Road; Night: Curzon Street No.2 viaduct deck	NA	35	R	T	-	-	N	-	-	
58528	Chartist Road, Birmingham	61/70 [C]	41/46 [C]	44/54 [C]	Day: utility diversions; Eve: classic rail track recovery Washwood Heath depot;	NA	108	R	T	H	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
					Night: Bromford tunnel west portal sheet piling										
58626	Bennetts Road, Birmingham	51/57 [C]	<40/40 [C]	36/43 [C]	Day: demolition; Eve: classic rail track recovery Washwood Heath depot; Night: Bromford tunnel west portal sheet piling	NA	69	R	T	H	-	N	-	-	
58835	Sandway Gardens, Birmingham	47/53 [A]	<40/<40 [B]	<35/43 [C]	Day: demolition; Eve: classic rail track recovery Washwood Heath depot; Night: Bromford tunnel west portal sheet piling	NA	42	R	T	-	-	N	-	-	
59103	Bennetts Road, Birmingham	52/57 [C]	<40/40 [C]	37/44 [C]	Day: demolition; Eve: classic rail track recovery Washwood Heath depot; Night: Bromford tunnel west portal sheet piling	NA	35	R	T	H	-	N	-	-	
59191	Arley Road, Birmingham	59/77 [A]	<40/<40 [C]	39/47 [C]	Day: demolition; Eve: classic rail track recovery Washwood Heath depot; Night: Bromford tunnel west portal sheet piling	A	92	R	T	-	-	N	D1	-	CSV26-Co3
59457	Johnson Street, Birmingham	48/56 [A]	40/43 [B]	38/44 [C]	Day: demolition; Eve: classic rail track recovery Washwood Heath depot; Night: classic rail track	NA	147	R	T	-	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
					recovery Washwood Heath depot										
59609	Mount Street, Nechells, Birmingham	55/62 [A]	41/44 [A]	41/46 [C]	Day: demolition; Eve: classic rail track recovery Washwood Heath depot; Night: Saltley canal underbridge deck	NA	34	R	T	-	-	N	-	-	
61166	Washwood Heath Road, Birmingham	58/68 [C]	<40/43 [C]	43/54 [C]	Day: B4114 Saltley Viaduct bridge demolition; Eve: classic rail track laying Duddeston Mill Road; Night: Saltley canal underbridge deck	NA	47	R	T	H	-	N	-	-	
61503	Adderley Gardens, Birmingham	55/67 [C]	43/48 [C]	42/48 [C]	Day: utility diversions; Eve: classic rail track laying Duddeston Mill Road; Night: classic rail track laying Duddeston Mill Road	NA	34	R	T	H	-	N	-	-	
61830	Washwood Heath Road, Birmingham	52/59 [C]	<40/<40 [C]	39/47 [C]	Day: B4114 Saltley Viaduct bridge demolition; Eve: classic rail track laying Duddeston Mill Road; Night: Bromford tunnel west portal sheet piling	NA	79	R	T	H	-	N	-	-	
62056	Washwood Heath Road,	54/65 [C]	<40/44 [C]	41/51 [C]	Day: B4114 Saltley Viaduct bridge demolition;	NA	79	R	T	H	-	N	-	-	

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ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
	Birmingham				Eve: classic rail track laying Duddeston Mill Road; Night: Saltley canal underbridge deck										
62306	The Sportsman public house, Saltley Road, Birmingham	61/68 [C]	44/47 [C]	45/53 [C]	Day: B4114 Saltley viaduct piling; Eve: classic rail track laying Duddeston Mill Road; Night: Saltley canal underbridge deck	NA	1	R	T	H	-	N	-	-	
63617	Aston Church Road, Birmingham	59/67 [C]	47/51 [C]	45/51 [C]	Day: demolition; Eve: classic rail track recovery Washwood Heath depot; Night: classic rail track recovery Washwood Heath depot	NA	6	R	T	H	-	N	-	-	
64051	Little Clover Close, Birmingham	54/61 [A]	43/47 [A]	41/47 [C]	Day: demolition; Eve: classic rail track recovery Washwood Heath depot; Night: classic rail track recovery Washwood Heath depot	NA	27	R	T	-	-	N	-	-	
64140	Aston Church Road, Birmingham	55/62 [A]	44/48 [B]	41/48 [C]	Day: demolition; Eve: classic rail track recovery Washwood Heath depot; Night: classic rail track recovery Washwood Heath	NA	18	R	T	-	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
					depot										
64317	Aston Church Road, Birmingham	55/64 [C]	45/49 [C]	43/49 [C]	Day: site clearance; Eve: classic rail track recovery Washwood Heath depot; Night: classic rail track recovery Washwood Heath depot	NA	1	R	T	H	-	N	-	-	
64544	Mount Street, Nechells, Birmingham	54/62 [B]	45/49 [B]	42/49 [C]	Day: site clearance; Eve: classic rail track recovery Washwood Heath depot; Night: classic rail track recovery Washwood Heath depot	NA	40	R	T	-	-	N	-	-	
64621	Mount Street, Nechells, Birmingham	52/58 [B]	43/47 [C]	41/47 [C]	Day: demolition; Eve: classic rail track laying Washwood Heath depot; Night: classic rail track laying Washwood Heath depot	NA	30	R	T	-	-	N	-	-	
65458	Hutton Road, Saltley, Birmingham	51/59 [C]	<40/40 [C]	39/46 [C]	Day: B4114 Saltley Viaduct bridge demolition; Eve: classic rail track laying Duddeston Mill Road; Night: Saltley canal underbridge deck	NA	39	R	T	-	-	N	-	-	
67190	Warren Road, Washwood	63/73 [B]	<40/46 [C]	42/53 [C]	Day: demolition; Eve: Bromford tunnel west	A	53	R	T	-	-	N	D 1	-	CSV26-Co2

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
	Heath, Birmingham				portal tunnel boring machine erection; Night: Bromford tunnel west portal sheet piling										
67370	Common Lane, Washwood Heath, Birmingham	65/71 [A]	<40/48 [C]	40/48 [B]	Day: Washwood Heath depot reprocessing of materials; Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west portal tunnel boring machine erection	A	11	R	T	-	-	N	D 22	-	CSV26-C02
67381	Coronation Road, Washwood Heath, Birmingham	71/77 [A]	<40/46 [C]	39/48 [B]	Day: fencing; Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west portal sheet piling	S	32	R	T	-	-	N	D 65	NI	CSV26-C02
67399	Pounds Green, Washwood Heath, Birmingham	65/70 [A]	<40/48 [C]	40/48 [B]	Day: Washwood Heath depot reprocessing of materials; Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west portal tunnel boring machine erection	A	26	R	T	-	-	N	D 31	-	CSV26-C02

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
67514	Washwood Heath Road, Birmingham	56/59 [B]	<40/43 [C]	37/43 [C]	Day: Washwood Heath depot reprocessing of materials; Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west portal tunnel boring machine erection	NA	59	R	T	H	-	N	-	-	
68349	Bennetts Road, Birmingham	52/56 [B]	<40/<40 [C]	39/47 [C]	Day: demolition; Eve: classic rail track recovery Washwood Heath depot; Night: Bromford tunnel west portal sheet piling	NA	62	R	T	-	-	N	-	-	
68797	Warren Road, Washwood Heath, Birmingham	59/67 [A]	<40/42 [C]	46/53 [C]	Day: fencing; Eve: classic rail track recovery Washwood Heath depot; Night: Bromford tunnel west portal sheet piling	A	59	R	T	-	-	N	D 3	-	CSV26-Co2
69064	Aston Church Road, Saltley, Birmingham	55/60 [C]	<40/43 [C]	41/52 [C]	Day: road construction; Eve: classic rail track recovery Washwood Heath depot; Night: Bromford tunnel west portal sheet piling	NA	29	R	T	H	-	N	-	-	-
69256	Warren Road, Washwood Heath, Birmingham	62/74 [A]	44/45 [C]	46/53 [C]	Day: demolition; Eve: Bromford tunnel west portal tunnel boring machine erection;	A	31	R	T	-	-	N	D 3	-	CSV26-Co2

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
					Night: Bromford tunnel west portal sheet piling										
69289	Warren Road, Washwood Heath, Birmingham	61/67 [A]	41/46 [C]	46/56 [C]	Day: fencing; Eve: classic rail track recovery Washwood Heath depot; Night: Bromford tunnel west portal sheet piling	S	23	R	T	-	-	N	D 2; N 1	NI	CSV26-Co2
69374	Washwood Heath Road, Birmingham	55/59 [B]	<40/40 [C]	41/48 [C]	Day: demolition; Eve: classic rail track recovery Washwood Heath depot; Night: Bromford tunnel west portal sheet piling	NA	22	R	T	H	-	N	-	-	
69609	Washwood Heath Road, Birmingham	54/58 [C]	<40/40 [C]	41/51 [C]	Day: Washwood Heath depot landscaping; Eve: classic rail track recovery Washwood Heath depot; Night: Bromford tunnel west portal sheet piling	NA	74	R	T	H	-	N	-	-	
72891	Drews Lane, Birmingham	64/68 [C]	<40/46 [C]	39/46 [C]	Day: Washwood Heath depot reprocessing of materials; Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west portal sheet piling	NA	21	R	T	H	-	N	-	-	
72929	Drews Lane, Birmingham	66/72 [C]	<40/48 [C]	41/48 [C]	Day: Washwood Heath depot	NA	16	R	T	H	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L_{pAeq} [dB] [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
					reprocessing of materials; Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west portal tunnel boring machine erection										
74077	Northleigh Road, Birmingham	55/60 [A]	<40/45 [B]	39/45 [C]	Day: Washwood Heath depot buildings substructure; Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west portal tunnel boring machine erection	NA	120	R	T	-	-	N	-	-	
74286	Drews Lane, Birmingham	57/63 [C]	45/46 [C]	44/46 [C]	Day: Washwood Heath depot buildings substructure; Eve: Bromford tunnel west portal tunnel finishes; Night: Bromford tunnel west portal tunnel finishes	NA	45	R	T	H	-	N	-	-	
74502	Drews Lane, Birmingham	57/62 [C]	42/46 [C]	42/46 [C]	Day: Washwood Heath depot buildings substructure; Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west	NA	29	R	T	H	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
					portal tunnel boring machine erection										
75140	Drews Lane, Birmingham	56/61 [A]	41/43 [B]	40/43 [C]	Day: Washwood Heath depot buildings substructure; Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west portal tunnel boring machine erection	NA	20	R	T	-	-	N	-	-	
75599	Drews Lane, Birmingham	60/68 [A]	43/52 [B]	43/52 [C]	Day: Washwood Heath depot buildings substructure; Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west portal tunnel boring machine erection	A	18	R	T	-	-	N	D 6	-	CSV26-Co1
75669	Drews Lane, Birmingham	64/71 [A]	44/53 [B]	44/53 [C]	Day: Washwood Heath depot reprocessing of materials; Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west portal tunnel boring machine erection	A	12	R	T	-	-	N	D 24	-	CSV26-Co1

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
75715	Drews Lane, Birmingham	62/69 [A]	45/54 [B]	45/54 [C]	Day: Washwood Heath depot watercourse diversion; Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west portal tunnel boring machine erection	A	11	R	T	-	-	N	D 8	-	CSV26-Co1
75755	Drews Lane, Birmingham	61/66 [C]	43/51 [C]	43/51 [C]	Day: Washwood Heath depot watercourse diversion; Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west portal tunnel boring machine erection	NA	26	R	T	H	-	N	-	-	
75816	Drews Lane, Birmingham	59/67 [C]	41/49 [C]	41/49 [C]	Day: Washwood Heath depot buildings substructure; Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west portal tunnel boring machine erection	NA	23	R	T	H	-	N	-	-	
75902	Drews Lane, Birmingham	67/72 [C]	43/52 [C]	44/52 [C]	Day: Washwood Heath depot reprocessing of materials; Eve: Bromford tunnel west	NA	18	R	T	H	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
					portal tunnel boring machine erection; Night: Bromford tunnel west portal tunnel boring machine erection										
75944	Ingleton Road, Birmingham	59/63 [A]	40/50 [B]	41/50 [C]	Day: Washwood Heath depot buildings substructure; Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west portal tunnel boring machine erection	NA	37	R	T	-	-	N	-	-	
76063	Drews Lane, Birmingham	70/75 [C]	43/52 [C]	44/52 [C]	Day: Washwood Heath depot reprocessing of materials; Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west portal tunnel boring machine erection	NA	9	R	T	H	-	N	-	-	
700500	Bordesley Street, Birmingham	65/75 [B]	-	40/43 [C]	Day: utility diversions; Night: Curzon Street No.3 viaduct deck	A	10	R	T	H	-	N	D 7	-	CSV26-C09
700501	Albert Street, Birmingham	68/75 [C]	-	50/53 [C]	Day: street scene works; Night: Curzon Street No.3	NA	335	R	T	H	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
					viaduct deck										
700502	Jennens Court flats, Etna Street, Birmingham	64/70 [A]	-	47/50 [C]	Day: demolition; Night: Curzon Street No.3 viaduct deck	A	1	R	T	-	-	N	D 20	-	CSV26-Co6
700509	Albion Vaults Public House, Cato Street North, Birmingham	54/62 [A]	40/44 [B]	41/50 [C]	Day: B4114 Saltley Viaduct bridge demolition; Eve: classic rail track laying Duddeston Mill Road; Night: Saltley canal underbridge deck	NA	2	R	T	-	-	N	-	-	
700513	Common Lane, Birmingham	70/83 [A]	<40/45 [C]	43/54 [B]	Day: utility diversions; Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west portal sheet piling	S	16	R	T	-	-	N	D 7; N 1	NI	CSV26-Co2
700515	Drews Lane, Birmingham	65/71 [C]	<40/48 [C]	40/48 [C]	Day: Washwood Heath depot reprocessing of materials; Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west portal tunnel boring machine erection	NA	4	R	T	H	-	N	-	-	
700517	Drews Lane, Birmingham	67/74 [C]	42/51 [C]	43/51 [C]	Day: Washwood Heath depot reprocessing of materials;	NA	10	R	T	H	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
					Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west portal tunnel boring machine erection										
700518	Northleigh Road, Birmingham	61/65 [A]	<40/47 [B]	40/47 [C]	Day: Washwood Heath depot reprocessing of materials; Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west portal tunnel boring machine erection	NA	4	R	T	-	-	N	-	-	
700519	Northleigh Road, Birmingham	58/63 [A]	<40/46 [B]	39/46 [C]	Day: Washwood Heath depot buildings substructure; Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west portal tunnel boring machine erection	NA	42	R	T	-	-	N	-	-	
701037	Malthouse Lane, Birmingham	48/51 [B]	<40/<40 [C]	<35/40 [C]	Day: Washwood Heath depot reprocessing of materials; Eve: classic rail track recovery Washwood Heath depot; Night: Bromford tunnel west	NA	74	R	T	H	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
					portal sheet piling										
701038	Malthouse Lane, Birmingham	51/55 [B]	<40/<40 [C]	37/45 [C]	Day: Washwood Heath depot buildings substructure; Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west portal sheet piling	NA	45	R	T	H	-	N	-	-	
701039	Washwood Heath Road, Birmingham	51/55 [C]	<40/<40 [C]	<35/41 [C]	Day: Washwood Heath depot buildings substructure; Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west portal sheet piling	NA	6	R	T	H	-	N	-	-	
701040	Washwood Heath Road, Birmingham	49/53 [C]	<40/<40 [C]	36/43 [C]	Day: Washwood Heath depot buildings substructure; Eve: classic rail track laying Washwood Heath depot; Night: Bromford tunnel west portal sheet piling	NA	80	R	T	H	-	N	-	-	
701041	Washwood Heath Road, Birmingham	56/60 [C]	<40/44 [C]	35/44 [C]	Day: Washwood Heath depot reprocessing of materials; Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west	NA	103	R	T	H	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
					portal tunnel boring machine erection										
701042	Washwood Heath Road, Birmingham	60/62 [C]	<40/41 [C]	<35/41 [C]	Day: Washwood Heath depot logistics and storage compound; Eve: Bromford tunnel west portal tunnel boring machine erection; Night: Bromford tunnel west portal tunnel boring machine erection	NA	37	R	T	H	-	N	-	-	

Table 4: Assessment of construction noise at non-residential receptors

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
35612	Millennium Point, and Parkside Building, Curzon Street, Birmingham	64/71	<40/<40	-	Day: Curzon Street station ground engineering; Eve: classic rail track laying Duddeston Mill Road	B	7	G4	T	-	-	N	D 71	-	CSV26-No8
35848	Network Park industrial estate (south), Duddeston Mill Road, Saltley, Birmingham	67/78	-	-	Day: utility diversions	B	3	G5	T	H	-	Y	D 2	-	CSV26-No3
35948	Network Park industrial estate (north), Duddeston Mill Road, Saltley, Birmingham	68/85	-	-	Day: demolition	B	6	G5	T	H	-	Y	D 2	-	CSV26-No3
36091	Network Rail Control Centre, Duddeston Mill Road, Vauxhall, Birmingham	63/72	-	-	Day: site clearance	B	1	G5	T	H	-	N	-	-	
36117	Adderley Primary School, Arden Road, Saltley, Birmingham	47/55	42/44	-	Day: demolition; Eve: classic rail track laying Duddeston Mill Road	B	1	G4	T	-	-	N	-	-	
36117	Retail unit, Arden Road, Saltley, Birmingham	47/55	-	-	Day: demolition	B	1	G5	T	-	-	N	-	-	
36618	The Bullring and surrounding buildings, Moor Street Queensway,	62/72	-	-	Day: demolition	B	39	G5	T	H	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L_{pAeq} [dB]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
	Birmingham														
36787	Mount Street Business Centre, Mount Street, Birmingham	60/72	-	-	Day: site clearance	B	1	G5	T	H	-	N	-	-	
37341	Duddeston Mill Trading Estate, Duddeston Mill Road, Saltley, Birmingham	61/67	-	-	Day: demolition	B	2	G5	T	H	-	N	-	-	
37360	Smurfitt Kappa, Mount Street, Saltley, Birmingham	60/68	-	-	Day: demolition	B	7	G5	T	H	-	N	-	-	
37463	Industrial units, Cranby Street, Birmingham	62/72	-	-	Day: B4114 Saltley Viaduct bridge demolition	B	4	G5	T	H	-	N	-	-	
37790	Boulton business units, Nechells Place, Birmingham	58/65	-	-	Day: demolition	B	15	G5	T	H	-	N	-	-	
37938	Safeside at Eastside, Vauxhall Road, Birmingham	61/78	43/45	-	Day: fencing; Eve: classic rail track laying Duddeston Mill Road	B	1	G4	T	-	-	N	D 4	-	CSV26-No6
38276	Magistrates Court, Corporation St, Birmingham	43/51	-	-	Day: demolition	B	19	G3	T	-	-	N	-	-	
38276	West Midlands Police Service, Steelhouse	43/51	-	-	Day: demolition	B	1	G4	T	-	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
	Lane, Birmingham														
38276	Corporation Street /Bull Street / Temple Row , Birmingham	43/51	-	-	Day: demolition	B	175	G5	T	-	-	N	-	-	
38592	Container Terminals, Landor Street, Birmingham	59/68	-	-	Day: demolition	B	1	G5	T	H	-	N	-	-	
40462	West Midlands Police, Digbeth, Birmingham	55/65	-	-	Day: demolition	B	2	G4	T	H	-	N	-	-	
40462	Allison Street to Moor Street Station arch, Birmingham	55/65	-	-	Day: demolition	B	9	G5	T	H	-	N	-	-	
40791	Digbeth Civic Hall, Digbeth, Birmingham	47/55	-	-	Day: demolition	B	2	G3	T	H	-	N	-	-	
40791	Oxford Street / Trent Street / Milk Street, Birmingham	47/55	-	-	Day: demolition	B	22	G5	T	H	-	N	-	-	
40917	Bordesley Street / Meriden Street, Birmingham	56/67	-	-	Day: demolition	B	4	G5	T	H	-	N	-	-	
41264	Pickford Street / Fazeley Street, Birmingham	60/69	-	-	Day: utility diversions	B	7	G5	T	H	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
41354	New Bartholomew Street / Bordesley Street, Birmingham	66/75	-	-	Day: utility diversions	B	9	G5	T	H	-	N	-	-	
41588	Andover Street, Birmingham	59/71	-	-	Day: Curzon Street station ground engineering	B	8	G5	T	H	-	N	-	-	
41993	Taboo Cinema, Park Street, Birmingham	66/78	-	-	Day: demolition	B	1	G3	T	H	-	N	D 12	-	CSV26-N11
41993	Moor Street Station / Shaw's Passage, Birmingham	66/78	-	-	Day: demolition	B	8	G5	T	H	-	N	D 2	-	*
42018	St Martins Church, Moat Lane, Birmingham	<40/46	-	-	Day: demolition	B	1	G3	T	H	-	N	-	-	
42018	College, Digbeth, Birmingham	<40/46	-	-	Day: demolition	B	1	G4	T	H	-	N	-	-	
42018	Moat Lane and markets, Digbeth, Birmingham	<40/46	-	-	Day: demolition	B	105	G5	T	H	-	N	-	-	
42114	Odeon Cinema, New Street, Birmingham	<40/45	-	-	Day: demolition	B	1	G3	T	-	-	N	-	-	
42114	New Street / New Street Station, Birmingham	<40/45	-	-	Day: demolition	B	160	G5	T	-	-	N	-	-	
42269	Carrs Lane Church and St Michaels Church, Carrs	63/74	-	-	Day: demolition	B	2	G3	T	H	-	N	D 5	-	CSV26-N10

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
	Lane, Birmingham														
42269	Carrs Lane, Birmingham	63/74	-	-	Day: demolition	B	48	G5	T	H	-	N	-	-	
42326	Dale End, Birmingham	42/50	-	-	Day: demolition	B	17	G5	T	H	-	N	-	-	
42359	Specsavers Opticians, New Street, Birmingham	49/58	-	-	Day: demolition	B	1	G4	T	H	-	N	-	-	
42359	High Street / Union Street, Birmingham	49/58	-	-	Day: demolition	B	37	G5	T	H	-	N	-	-	
44620	Jennens Road / Woodcock Street, Birmingham	53/60	-	-	Day: demolition	B	16	G5	T	H	-	N	-	-	
45208	University of Aston, Aston Street, Birmingham	54/63	-	-	Day: Curzon Street station ground engineering	B	4	G4	T	H	-	N	-	-	
45252	Learning and Skills Council offices, Bartholomew Row, Birmingham	64/72	-	-	Day: utility diversions	B	1	G5	T	-	-	N	-	-	
46410	Central Methodist Church, Dalton Street, Birmingham	59/68	-	-	Day: demolition	B	1	G3	T	H	-	N	D 1	-	*
46410	Crown Hotel, Corporation Street,	59/68	-	46/49	Day: demolition; Night: Curzon Street No.3	B	1	G4	T	H	-	N	D 1	-	*

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L_{pAeq} [dB]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
	Birmingham				viaduct deck										
46410	Corporation Street / Dalton Street, Birmingham	59/68	-	-	Day: demolition	B	44	G5	T	H	-	N	-	-	
47091	Garrison Centre / Freight Centre, Garrison Street, Birmingham	53/58	-	-	Day: demolition	B	11	G5	T	-	-	N	-	-	
48460	River Street / Floodgate Street, Birmingham	54/60	-	-	Day: demolition	B	20	G5	T	H	-	N	-	-	
48773	Warwick Wharf / Fazeley Street Industrial Estate, Fazeley Street, Birmingham	60/65	-	-	Day: Curzon Street station ground engineering	B	20	G5	T	H	-	N	-	-	
48796	Great Barr Street / Fazeley Street, Birmingham	56/60	-	-	Day: demolition	B	15	G5	T	-	-	N	-	-	
48817	Watery Lane Middleway, Bordesley, Birmingham	59/70	-	-	Day: road construction	B	6	G5	T	H	-	N	-	-	
49490	Vauxhall Trading Estate, Dollman Street, Birmingham	58/64	-	-	Day: demolition	B	7	G5	T	H	-	N	-	-	
49870	Heartlands Academy, Great Francis Street,	51/57	44/45	-	Day: demolition; Eve: classic rail track laying	B	1	G4	T	H	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L_{pAeq} [dB]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
	Birmingham				Duddeston Mill Road										
49958	Church of Christ, Great Francis Street, Birmingham	53/59	47/49	-	Day: demolition; Eve: classic rail track laying Duddeston Mill Road	B	1	G3	T	H	-	N	-	-	
49958	Old Railway Yard, Great Francis Street, Birmingham	53/59	-	-	Day: demolition	B	1	G5	T	H	-	N	-	-	
50110	Warehouses, Dollman Street, Birmingham	59/70	-	-	Day: demolition	B	13	G5	T	-	-	N	-	-	
50238	Industrial units (south), Cato Street, Birmingham	56/63	-	-	Day: demolition	B	9	G5	T	H	-	N	-	-	
50284	Inkerman Street / Dollman Street trading units, Inkerman Street, Birmingham	55/61	-	-	Day: B4114 Saltley Viaduct bridge demolition	B	6	G5	T	-	-	N	-	-	
50326	Nechells Business Centre (north), Dollman Street, Birmingham	65/73	-	-	Day: fencing	B	9	G5	T	H	-	N	-	-	
50586	Industrial units near Aston Circus, A4540 Lawley Middleway, Birmingham	58/66	-	-	Day: utility diversions	B	7	G5	T	H	-	N	-	-	
50998	Revesby Walk, Duddeston Manor Road,	54/60	-	-	Day: demolition	B	6	G5	T	-	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L_{pAeq} [dB]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
	Birmingham														
51047	Duddeston Manor Road, Birmingham	49/54	-	-	Day: demolition	B	1	G5	T	H	-	N	-	-	
51535	Commercial units, Garrison Street North, Garrison Street, Birmingham	55/62	-	-	Day: demolition	B	5	G5	T	-	-	N	-	-	
51605	Commercial units, Garrison Street west, Garrison Street, Birmingham	55/61	-	-	Day: demolition	B	2	G5	T	-	-	N	-	-	
51730	Landor Street, Birmingham	57/64	-	-	Day: demolition	B	1	G5	T	-	-	N	-	-	
51868	St. Vincents School, Vauxhall Grove, Birmingham	53/63	44/46	-	Day: demolition; Eve: classic rail track laying Duddeston Mill Road	B	1	G4	T	-	-	N	D 1	-	*
51904	Industrial units, Erskine Street, Birmingham	65/79	-	-	Day: demolition	B	4	G5	T	H	-	N	D 2	-	CSV26-No5
52180	Professional Music Technology, Lawley Middleway, Birmingham	67/76	<40/<40	-	Day: road construction; Eve: classic rail track recovery Duddeston Mill Road	B	1	G2	T	-	-	N	D 11	-	CSV26-No7
52180	A4540 Lawley Middleway, Birmingham	67/76	-	-	Day: road construction	B	1	G5	T	-	-	N	D 2	-	*

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L_{pAeq} [dB]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
52220	Gordon Franks Training, Vauxhall Road, Birmingham	62/68	<40/41	-	Day: demolition; Eve: classic rail track laying Duddeston Mill Road	B	1	G4	T	-	-	N	-	-	
52342	Barrack Street (middle), Barrack Street, Birmingham	54/60	-	-	Day: demolition	B	1	G5	T	-	-	N	-	-	
52398	Proposed new University buildings and hotel Eastside Locks, Curzon Street	62/68	<40/<40	54/60	Day: demolition; Eve: classic rail track laying Duddeston Mill Road	B	1	G4	T	-	-	N	D 53; N 5	-	CSV26-No8
52502	Industrial units, Montague Way, Birmingham	60/66	-	-	Day: road construction	B	4	G5	T	H	-	N	-	-	
53526	Bloomsbury Library, Saltley Road, Birmingham	52/61	40/45	-	Day: B4114 Saltley Viaduct bridge demolition; Eve: classic rail track laying Duddeston Mill Road	B	3	G4	T	H	-	N	-	-	
53805	Nechells Green Community Centre, Melvina Road, Birmingham	52/60	45/47	-	Day: B4114 Saltley Viaduct bridge demolition; Eve: classic rail track laying Duddeston Mill Road	B	1	G3	T	H	-	N	-	-	
53805	Little Hall Road, Birmingham	52/60	-	-	Day: B4114 Saltley Viaduct bridge demolition	B	1	G5	T	H	-	N	-	-	
54833	Adderley Children's	51/60	44/46	-	Day: demolition;	B	1	G4	T	-	-	N	D 1	-	*

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L_{pAeq} [dB]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
	Centre, St. Saviours Road, Birmingham				Eve: classic rail track laying Duddeston Mill Road										
54867	Saltley Baptist Church, George Arthur Road, Birmingham	52/60	43/47	-	Day: B4114 Saltley Viaduct bridge demolition; Eve: classic rail track laying Duddeston Mill Road	B	1	G3	T	-	-	N	D3	-	*
54867	Alum Rock Road shops, Alum Rock Road, Birmingham	52/60	-	-	Day: B4114 Saltley Viaduct bridge demolition	B	6	G5	T	-	-	N	-	-	
55784	Parish of Saltley and Shaw Hill Church, St Saviours Road, Birmingham	49/55	40/45	-	Day: demolition; Eve: classic rail track laying Duddeston Mill Road	B	1	G3	T	-	-	N	-	-	
57122	Duddeston Mill Trading Estate (North), Duddeston Mill Road, Saltley, Birmingham	61/74	-	-	Day: site mobilisation	B	5	G5	T	H	-	N	-	-	
57184	Duddeston Mill Trading Estate (South), Duddeston Mill Road, Saltley, Birmingham	58/64	-	-	Day: demolition	B	11	G5	T	H	-	N	-	-	
57220	Adderley Trading Estate, Adderley Road, Birmingham	57/63	-	-	Day: demolition	B	13	G5	T	-	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L_{pAeq} [dB]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
57289	Madina Masjid, St Saviours Road, Birmingham	57/63	48/52	-	Day: utility diversions; Eve: classic rail track laying Duddeston Mill Road	B	1	G3	T	H	-	N	-	-	
57289	Adderley Children's Centre, St. Saviours Road, Birmingham	57/63	48/52	-	Day: utility diversions; Eve: classic rail track laying Duddeston Mill Road	B	1	G4	T	H	-	N	-	-	
57289	Adderley Road, Birmingham	57/63	-	-	Day: utility diversions	B	2	G5	T	H	-	N	-	-	
57381	Adderley Road, Birmingham	56/68	-	-	Day: utility diversions	B	1	G5	T	H	-	N	-	-	
57499	Rea Business Park, Inkerman Street, Birmingham	65/74	-	-	Day: demolition	B	7	G5	T	H	-	N	-	-	
58835	Community Hall, Washwood Heath Road, Birmingham	47/53	<40/<40	-	Day: demolition; Eve: classic rail track recovery Washwood Heath depot	B	1	G3	T	-	-	N	-	-	
59457	Nechells Methodist Church, Nechells Park Road, Birmingham	48/56	40/43	-	Day: demolition; Eve: classic rail track recovery Washwood Heath depot	B	1	G3	T	-	-	N	-	-	
59457	Trevor Street West, Birmingham	48/56	-	-	Day: demolition	B	4	G5	T	-	-	N	-	-	
59796	Mount Street Business Centre, Mount Street,	57/68	-	-	Day: River Rea watercourse demolition	B	38	G5	T	-	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
	Nechells, Birmingham														
59937	Centre Link Industrial Estate, St. Clements Road, Birmingham	53/60	-	-	Day: River Rea watercourse demolition	B	4	G5	T	-	-	N	-	-	
60102	Saltley Business Park, Dorset Road, Saltley, Birmingham	65/80	-	-	Day: fencing	B	4	G5	T	-	-	Y	D 1	-	CSV26-No3
60182	Aston Church Road / A47 Heartlands Parkway, Birmingham	58/68	-	-	Day: site clearance	B	1	G5	T	H	-	N	-	-	
61166	St Saviours Primary School, Alum Rock Road, Birmingham	58/68	<40/43	-	Day: B4114 Saltley Viaduct bridge demolition; Eve: classic rail track laying Duddeston Mill Road	B	1	G4	T	H	-	N	-	-	
61166	Alum Rock Road, Birmingham	58/68	-	-	Day: B4114 Saltley Viaduct bridge demolition	B	9	G5	T	H	-	N	-	-	
62056	Phillimore Road / Washwood Heath Road, Birmingham	54/65	-	-	Day: B4114 Saltley Viaduct bridge demolition	B	1	G5	T	H	-	N	-	-	
62306	Industrial units, Cato Street North, Birmingham	61/68	-	-	Day: B4114 Saltley viaduct piling	B	12	G5	T	H	-	N	-	-	
62459	Industrial units, Devon Street/Cato Street,	52/60	-	-	Day: demolition	B	10	G5	T	H	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
	Birmingham														
62720	Mainstream 47 Industrial Park, Mainstream Way, Birmingham	62/71	-	-	Day: B4114 Saltley Viaduct bridge demolition	B	15	G5	T	H	-	N	-	-	
63581	Dunton Trading Estate / Mount Street Industrial Estate, Mount Street, Birmingham	57/67	-	-	Day: site clearance	B	24	G5	T	H	-	N	-	-	
64317	Heartlands Club, Aston Church Road, Saltley	55/64	45/49	-	Day: site clearance; Eve: classic rail track recovery Washwood Heath depot	B	1	G3	T	H	-	N	-	-	
64317	Mount Street Business Centre, Mount Street, Nechells, Birmingham	55/64	-	-	Day: site clearance	B	17	G5	T	H	-	N	-	-	
64548	Nechells Play Centre, Mount Street, Nechells, Birmingham	53/60	43/47	-	Day: demolition; Eve: classic rail track recovery Washwood Heath depot	B	1	G4	T	-	-	N	-	-	
64548	Community Offices, Aston Church Road, Nechells, Birmingham	53/60	-	-	Day: demolition	B	1	G5	T	-	-	N	-	-	
65458	Anjuman-E-Naqeebul Islam Mosque, Washwood Heath Road, Birmingham	51/59	<40/40	-	Day: B4114 Saltley Viaduct bridge demolition; Eve: classic rail track laying Duddeston Mill Road	B	1	G3	T	-	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
65458	Al Huda Girls School and Gate Medical Centre, Washwood Heath Road, Saltley, Birmingham	51/59	<40/40	-	Day: B4114 Saltley Viaduct bridge demolition; Eve: classic rail track laying Duddeston Mill Road	B	2	G4	T	-	-	N	-	-	
65620	Industrial Units, Devon Street (South), Birmingham	61/69	-	-	Day: demolition	B	3	G5	T	H	-	N	-	-	
66331	Industrial Estate, Bromford Lane, Washwood Heath, Birmingham	41/47	-	-	Day: Washwood Heath depot buildings substructure	B	4	G5	T	H	-	N	-	-	
66445	Star Park South, Heartlands Parkway, Birmingham	58/65	52/56	-	Day: demolition; Eve: classic rail track laying Washwood Heath depot	B	18	G3	T	H	-	N	-	-	
66445	Star Park, Heartlands Parkway, Birmingham	58/65	-	-	Day: demolition	B	1	G5	T	H	-	N	-	-	
66559	Car showroom (Star Park South), Heartlands Parkway, Birmingham	62/73	-	-	Day: utility diversions	B	1	G5	T	H	-	N	-	-	
67399	Council Office, Common Lane, Birmingham	65/70	-	-	Day: Washwood Heath depot reprocessing of materials	B	1	G5	T	-	-	N	-	-	
67514	Council Office, Washwood Heath Road, Birmingham	56/59	-	-	Day: Washwood Heath depot reprocessing of materials	B	1	G5	T	H	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
68349	Car Dealer, Bennetts Road, Birmingham	52/56	-	-	Day: demolition	B	1	G5	T	-	-	N	-	-	
69064	Shops, Aston Church Road, Saltley, Birmingham	55/60	-	-	Day: road construction	B	4	G5	T	H	-	N	-	-	
69256	Leigh Junior, Infant and Nursery School, Leigh Road, Birmingham	60/67	44/45	-	Day: demolition; Eve: Bromford tunnel west portal tunnel boring machine erection	B	1	G4	T	-	-	N	D 54	-	CSV26-No1
69374	Parish of Washwood Heath Church and Hall, Washwood Heath Road, Birmingham	55/59	<40/40	-	Day: demolition; Eve: classic rail track recovery Washwood Heath depot	B	2	G3	T	H	-	N	-	-	
69846	Hasanat College, Leigh Road, Washwood Heath, Birmingham	61/74	<40/45	-	Day: fencing; Eve: classic rail track laying Washwood Heath depot	B	1	G4	T	-	-	N	D 49	-	CSV26-No1
71826	Brewery, Gravelly Industrial Park, Birmingham	61/68	-	-	Day: Washwood Heath depot buildings substructure	B	1	G5	T	H	-	N	-	-	
72552	Industrial units, Gravelly Industrial Park (south), Birmingham	59/66	-	-	Day: demolition	B	25	G5	T	H	-	N	-	-	
74286	Office / retail premises, Drews Lane, Birmingham	57/63	-	-	Day: Washwood Heath depot buildings substructure	B	1	G5	T	H	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
75527	Industrial units, Drews Lane, Birmingham	67/73	-	-	Day: Washwood Heath depot hard landscaping	B	4	G5	T	-	-	N	-	-	
75715	Retail unit, Drews Lane, Birmingham	62/69	-	-	Day: Washwood Heath depot watercourse diversion	B	1	G5	T	-	-	N	-	-	
75902	Allotment Club House, Drews Lane, Birmingham	67/72	43/52	-	Day: Washwood Heath depot reprocessing of materials; Eve: Bromford tunnel west portal tunnel boring machine erection	B	1	G4	T	H	-	N	-	-	
76063	Local shops, Drews Lane, Birmingham	70/75	-	-	Day: Washwood Heath depot reprocessing of materials	B	1	G5	T	H	-	N	-	-	
700500	Polish Catholic Association, Bordesley Street, Birmingham	65/75	-	-	Day: utility diversions	B	1	G3	T	H	-	N	D 12	-	CSV26-N12
700500	Café, Bordesley Street, Birmingham	65/75	-	-	Day: utility diversions	B	2	G5	T	H	-	N	-	-	
700503	Hotel La Tour, Moor Street Queensway, Birmingham	64/78	-	45/48	Day: utility diversions; Night: Curzon Street No.3 viaduct deck	B	1	G4	T	H	-	N	D 3	-	CSV26-N09
700504	Seventh Day Adventist Church, Windsor Street South, Birmingham	61/68	<40/<40	-	Day: utility diversions; Eve: classic rail track recovery Duddeston Mill Road	B	1	G3	T	-	-	N	-	-	
700504	Al-Birr independent School, Windsor Street	61/68	<40/<40	-	Day: utility diversions; Eve: classic rail track recovery	B	1	G4	T	-	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
	South, Birmingham				Duddeston Mill Road										
700505	West Midlands Fire Service Headquarters offices, and commercial units, St James' Place, Birmingham	68/77	-	-	Day: Curzon Street No.2 viaduct deck	B	2	G5	T	-	-	Y	D 5	-	CSV26-No5
700506	Celestial Church of Christ, Fazeley Street, Birmingham	54/58	<40/<40	-	Day: demolition; Eve: classic rail track recovery Duddeston Mill Road	B	1	G3	T	-	-	N	-	-	
700506	Minerva Works, Fazeley Street, Birmingham	54/58	-	-	Day: demolition	B	7	G5	T	-	-	N	-	-	
700507	Birmingham City Council Museum Collection Centre, Dollman Street, Birmingham	63/70	52/53	-	Day: utility diversions; Eve: classic rail track laying Duddeston Mill Road	B	1	G3	S	-	-	Y	D 30	-	CSV26-No4
700508	Saltley Business Park, Gate Street, Saltley, Birmingham	70/81	-	-	Day: utility diversions	B	2	G5	T	H	-	N	D 7	-	CSV26-No3
700509	Industrial units, Cato Road North, Birmingham	54/62	-	-	Day: B4114 Saltley Viaduct bridge demolition	B	3	G5	T	-	-	N	-	-	
700510	Blueberry Hotel, Watson Road East, Birmingham	56/63	50/54	48/54	Day: demolition; Eve: classic rail track laying Washwood Heath depot; Night: classic rail track laying	B	1	G4	T	H	-	N	-	-	

Assessment location		Impact criteria				Significance criteria									Significant effect
ID	Area represented	Typical/highest monthly outdoor L_{pAeq} [dB]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect	
		Day 0700-1900	Evening 1900-2300	Night 2300-0700											
					Washwood Heath depot										
700511	Masjid Ali Mosque, Aston Church Road, Birmingham	69/77	45/49	-	Day: utility diversions; Eve: classic rail track recovery Washwood Heath depot	B	1	G3	T	H	-	N	D 5	-	CSV26-No2
700511	Industrial unit, Arley Road, Birmingham	69/77	-	-	Day: utility diversions	B	2	G5	T	H	-	N	D 5	-	*
700518	Bethel Free Baptist Church, Ward End Road, Birmingham	61/65	<40/47	-	Day: Washwood Heath depot reprocessing of materials; Eve: Bromford tunnel west portal tunnel boring machine erection	B	1	G3	T	-	-	N	D 65	-	*
701039	Job Centre, Washwood Heath Road, Birmingham	51/55	-	-	Day: Washwood Heath depot buildings substructure	B	1	G5	T	H	-	N	-	-	
701042	Sidhu News, Washwood Heath Road, Birmingham	60/62	-	-	Day: Washwood Heath depot logistics and storage compound	B	1	G5	T	H	-	N	-	-	

Airborne sound: indirect effects

- 4.3.7 Construction road traffic associated with the construction phases of the Proposed Scheme would generate airborne noise. Based upon traffic information for the Proposed Scheme, the change in traffic noise level at a reference distance of 10m from the edge of the nearside carriageway resulting from the presence of construction traffic for a given road has been predicted. Data has been provided for three representative periods during the works (quarter 4 2018, quarter 1 2019 and quarter 4 2019). The results for potentially significant road links are presented in Table 5.
- 4.3.8 Explanation of the information within Table 5 is provided in Volume 5: Appendix SV-001-000, with the following additional notes:



Where the significant effect column is highlighted, then a significant effect is identified on nearby communities or individual receptors

Change values



Yellow denotes a minor impact – a change is of 3-5 dB or 1-3dB where a high existing sound level is identified



Orange denotes a moderate impact – a change is of 5-10 dB or 3-5dB where a high existing sound level is identified



Red denotes a major impact – a change is of >10 dB or >5dB where a high existing sound level is identified

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Table 5: Assessment of construction traffic noise levels

Road name	Link	Future baseline sound level (dB)	Future baseline sound level + construction traffic (dB) quarter 4 2018	Future baseline sound level + construction traffic (dB) quarter 1 2019	Future baseline sound level + construction traffic (dB) quarter 4 2019	Change (dB) quarter 4 2018	Change (dB) quarter 1 2019	Change (dB) quarter 4 2019	Significant effect
		Daytime $L_{pAeq,16hr}$ 0700-23:00 free-field	Daytime $L_{pAeq,16hr}$ 0700-2300 free-field	Daytime $L_{pAeq,16hr}$ 0700-2300 free-field	Daytime $L_{pAeq,16hr}$ 0700-2300 free-field				
Aston Church Road between A47 Heartlands Parkway and Arley Road	1024-1029	70.2	72.4	72.6	72.6	+2.2	+2.4	+2.4	
Washwood Heath Road from Aston Church Road to Arley Road	1028-1031	70.3	68.3	68.3	68.3	-2.0	-2.0	-2.0	CSV26-C10 CSV26-N17
B4114/High Street between Washwood Heath Road and Pennine Way	1019-1025	73.6	61.1	61.1	62.2	-12.5	-12.5	-11.4	CSV26-N13
B4114 Saltley Viaduct between A47 Heartlands Parkway and Pennine Way	1014-1019	73.4	N/A	N/A	N/A	N/A	N/A	N/A	CSV26-N13
Duddeston Mill Road between Adderley Road and Inkerman Street	1011-1018	69.6	73.1	73.1	73.2	+3.5	+3.5	+3.6	
Cardigan Street north of Gopsal Street	6144-6414	57.6	62.0	62.0	62.0	+4.4	+4.4	+4.4	CSV26-Co6 CSV26-No8
Cardigan Street south of Gopsal Street	6179-6414	55.2	61.7	61.7	61.7	+6.5	+6.5	+6.5	CSV26-Co6 CSV26-No8

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Road name	Link	Future baseline sound level (dB)	Future baseline sound level + construction traffic (dB) quarter 4 2018	Future baseline sound level + construction traffic (dB) quarter 1 2019	Future baseline sound level + construction traffic (dB) quarter 4 2019	Change (dB) quarter 4 2018	Change (dB) quarter 1 2019	Change (dB) quarter 4 2019	Significant effect
		Daytime $L_{pAeq,16hr}$ 0700-23:00 free-field	Daytime $L_{pAeq,16hr}$ 0700-2300 free-field	Daytime $L_{pAeq,16hr}$ 0700-2300 free-field	Daytime $L_{pAeq,16hr}$ 0700-2300 free-field				
Montague Street between A4540 Lawley Middleway and Derby Street	7504-8925	55.1	60.0	60.0	60.0	+4.9	+4.9	+4.9	
B4114/Chapel Street north of Albert Street	6108-6429	70.7	68.6	68.6	68.6	-2.1	-2.1	-2.1	CSV26-C10
B4114/Chapel Street south of Jennens Road	6315-6429	69.9	67.3	67.3	67.3	-2.6	-2.6	-2.6	CSV26-C10
B4114/Park Street between Albert Street and Masshouse Lane	6107-6108	71.3	68.4	68.4	68.4	-2.9	-2.9	-2.9	CSV26-C10
Masshouse Lane south-east of car park entry	6107-6430	64.2	67.5	67.5	67.5	+3.3	+3.3	+3.3	CSV26-C09
Masshouse Lane north-west of car park entry	6420-6430	65.2	68.5	68.5	68.5	+3.3	+3.3	+3.3	CSV26-C09
Banbury Street north of Andover Street	6110-7653	56.9	59.9	59.9	59.9	+3.0	+3.0	+3.0	
Andover Street, north end	7653-7730	51.1	57.5	57.5	57.5	+6.4	+6.4	+6.4	

Road name	Link	Future baseline sound level (dB)	Future baseline sound level + construction traffic (dB) quarter 4 2018	Future baseline sound level + construction traffic (dB) quarter 1 2019	Future baseline sound level + construction traffic (dB) quarter 4 2019	Change (dB) quarter 4 2018	Change (dB) quarter 1 2019	Change (dB) quarter 4 2019	Significant effect
		Daytime $L_{pAeq,16hr}$ 0700-23:00 free-field	Daytime $L_{pAeq,16hr}$ 0700-2300 free-field	Daytime $L_{pAeq,16hr}$ 0700-2300 free-field	Daytime $L_{pAeq,16hr}$ 0700-2300 free-field				
Fazeley Street between New Canal Street and Benacre Drive	7301-7650	65.0	61.1	61.1	61.1	-3.9	-3.9	-3.9	
Fazeley Street between Benacre Drive and Pickford Street	7122-7650	65.5	62.0	62.0	62.0	-3.5	-3.5	-3.5	
Fazeley Street between Pickford Street and Barn Street	7122-7148	67.8	64.0	64.0	64.0	-3.8	-3.8	-3.8	
Bordesley Street between New Canal Street and New Bartholomew Street	7179-7197	59.6	52.5	52.5	52.5	-7.1	-7.1	-7.1	CSV26-N15
Floodgate Street between Fazeley Street and Little Ann Street	7149-8911	57.7	61.1	61.1	61.1	+3.4	+3.4	+3.4	
Moor Street car park Road entry 1	7124-7545	63.3	56.4	56.4	56.4	-6.9	-6.9	-6.9	
Moor Street car park Road entry 2	7507-7545	58.0	61.1	61.1	61.1	+3.1	+3.1	+3.1	
Coventry Street between Alison Street and Meriden Street	7196-7198	53.6	60.8	60.8	60.8	+7.2	+7.2	+7.2	CSV26-Co8 CSV26-N14

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Road name	Link	Future baseline sound level (dB)	Future baseline sound level + construction traffic (dB) quarter 4 2018	Future baseline sound level + construction traffic (dB) quarter 1 2019	Future baseline sound level + construction traffic (dB) quarter 4 2019	Change (dB) quarter 4 2018	Change (dB) quarter 1 2019	Change (dB) quarter 4 2019	Significant effect
		Daytime $L_{pAeq,16hr}$ 0700-23:00 free-field	Daytime $L_{pAeq,16hr}$ 0700-2300 free-field	Daytime $L_{pAeq,16hr}$ 0700-2300 free-field	Daytime $L_{pAeq,16hr}$ 0700-2300 free-field				
Alison Street between Coventry Street and B4100/Digbeth	7198-7199	54.5	60.9	60.9	60.9	+6.4	+6.4	+6.4	CSV26-Co8 CSV26-N14
Moore's Row between Milk Street and Floodgate Street	7409-7410	57.8	62.6	62.6	62.6	+4.8	+4.8	+4.8	
Erskine Street south-east of Dollman Street	1006-2003	N/A	42.3	43.2	43.2				
Melvina Road off A47/Saltley Road	1007-1008	72.0	74.2	74.3	74.3	+2.2	+2.3	+2.3	CSV26-C09 CSV26-N16
Access off Duddeston Mill Road (east of bridge)	1011-2002	N/A	46.0	47.3	47.3				
A47 Heartlands Parkway between Saltley Road and Aston Church Road	1014-1024	75.4	76.4	76.4	76.4	+1.0	+1.0	+1.0	
Adderley Road from Crawford Street to Ash Road	1018-1020	69.7	71.3	71.3	71.4	+1.6	+1.6	+1.7	CSV26-N16
Washwood Heath Road between Arley Road and Alum Rock Road	1025-1028	72.2	69.7	69.7	69.7	-2.5	-2.5	-2.5	CSV26-C10 CSV26-N17

Road name	Link	Future baseline sound level (dB)	Future baseline sound level + construction traffic (dB) quarter 4 2018	Future baseline sound level + construction traffic (dB) quarter 1 2019	Future baseline sound level + construction traffic (dB) quarter 4 2019	Change (dB) quarter 4 2018	Change (dB) quarter 1 2019	Change (dB) quarter 4 2019	Significant effect
		Daytime $L_{pAeq,16hr}$ 0700-23:00 free-field	Daytime $L_{pAeq,16hr}$ 0700-2300 free-field	Daytime $L_{pAeq,16hr}$ 0700-2300 free-field	Daytime $L_{pAeq,16hr}$ 0700-2300 free-field				
Aston Church Road from Warren Road to Washwood Heath Road	1030-1031	68.8	71.7	71.7	71.7	+2.9	+2.9	+2.9	CSV26-Co9
B4100 Moor Street Queensway, Carrs Lane to Moor Street Station	6706-6707 and 6424-6707	64.2	68.1	68.1	68.1	+3.9	+3.9	+3.9	
B4100 Moor Street Queensway, Moor Street Station to St Martins Queensway	6706-10000 and 6704-10001	69.5	70.6	70.6	70.6	+1.1	+1.1	+1.1	
Moor Street south of B4100 Moor Street Queensway	7113-7124 and 7113-7414	69.5	71.4	71.4	71.4	+1.9	+1.9	+1.9	
Curzon Street, between New Canal Street to Millennium Point	1003-6109	66.6	69.1	69.2	69.1	+2.5	+2.6	+2.5	CSV26-No8
B4100 Moor Street Queensway north of Albert Street 1	1016-7133 and 6310-7133 and 7133-7417	69.1	70.7	70.7	70.7	+1.6	+1.6	+1.6	
B4100 Moor Street Queensway north of Albert Street 2	1016-7133 and 6310-7133 and 6310-7417	69.7	71.0	71.0	71.0	+1.3	+1.3	+1.3	

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Road name	Link	Future baseline sound level (dB)	Future baseline sound level + construction traffic (dB) quarter 4 2018	Future baseline sound level + construction traffic (dB) quarter 1 2019	Future baseline sound level + construction traffic (dB) quarter 4 2019	Change (dB) quarter 4 2018	Change (dB) quarter 1 2019	Change (dB) quarter 4 2019	Significant effect
		Daytime $L_{pAeq,16hr}$ 0700-23:00 free-field	Daytime $L_{pAeq,16hr}$ 0700-2300 free-field	Daytime $L_{pAeq,16hr}$ 0700-2300 free-field	Daytime $L_{pAeq,16hr}$ 0700-2300 free-field				
B4100 Moor Street Queensway between Carrs Lane and Albert Street	6707-7133 and 6424-7420	69.0	71.0	71.0	71.0	+2.0	+2.0	+2.0	CSV26-No10
Moor Street north of Park Street	7124-7414 and 7113-7124	68.7	70.3	70.3	70.3	+1.6	+1.6	+1.6	
Fazeley Street between Barn Street and Floodgate Street	7148-7149	66.0	63.4	63.4	63.4	-2.6	-2.6	-2.6	
Fazeley Street between Floodgate Street and Heath Mill Lane	7149-7171	67.8	65.9	65.9	65.9	-1.9	-1.9	-1.9	

4.4 Assessment of significant effects

Residential receptors: direct effects – individual dwellings

- 4.4.1 Taking account of the avoidance and mitigation measures set out in the previous paragraphs, approximately 175 existing residential buildings, and proposed³ residential buildings are forecast to experience noise levels higher than the noise insulation trigger levels as defined in the draft CoCP. The existing residential properties consist of approximately 70 buildings in the B4114 Washwood Heath Road area, approximately 50 buildings in the Northumberland Street area, around 50 buildings in the A4540 Lawley Middleway area and three properties in the vicinity of the proposed Curzon Street station. For daytime construction the trigger level is 75dB⁴ measured outdoors, or the existing ambient if this is already above this level. For night-time construction the trigger level is 55dB⁵ measured outdoors, or the existing ambient if this is already above this level.
- 4.4.2 At properties in the Washwood Heath Road area of Washwood Heath (CSV26-Co2) the draft CoCP trigger level is predicted to be exceeded during the daytime at a maximum of 48 properties off Coronation Road and Common Road for one and five months respectively in 2017. At Common Lane (assessment location 700513) utility diversions and demolition works in close proximity to the properties are the source of the exceedance. At Coronation Road (assessment location 67381) the installation of boundary fencing immediately adjacent to the closest properties is the source of the exceedance. At a maximum of a further 23 properties on Warren Road (assessment location 69289) the draft CoCP trigger level is predicted to be exceeded during the night –time for one month in 2021 due to sheet piling works at the Bromford Tunnel portal.
- 4.4.3 At the closest properties in Northumberland Street, Vauxhall (CSV26-Co4) the draft CoCP trigger level is predicted to be exceeded at night for five months in 2019, due to the deck works at the adjacent Curzon Street No. 2 viaduct.
- 4.4.4 In the Lawley Middleway area, Vauxhall (CSV26-Co5) the draft CoCP trigger level is predicted to be exceeded during the night at a maximum of 18 properties off Lawley Middleway, and a maximum of 32 properties off Vauxhall Road for five months in 2019, due to deck works at the nearby Curzon Street No. 3 viaduct. At the maximum of 18 properties off Lawley Middleway the daytime draft CoCP trigger level is also predicted to be exceeded for two months in 2018, due to road works on the A4540 Lawley Middleway.
- 4.4.5 At two existing properties off Penn Street in the vicinity of Curzon Street station (CSV26-Co6) the draft CoCP trigger level is predicted to be exceeded during the night for five months in 2019 due to deck works at the nearby Curzon Street No. 3 viaduct. These works are also likely to affect the closest residential properties in the proposed Eastside Locks mixed use development. Only limited details on the layout of the development are currently available, if the proposed residential buildings are set back

³ Eastside Locks committed development. Refer to Volume 5: CT-004-000 for further details.

⁴ L_{pAeq,0800-1800} measured at the façade, outdoors, or the existing ambient if this is already above this level.

⁵ L_{pAeq,2200-0700} measured at the façade, outdoors, or the existing ambient if this is already above this level.

from the southern boundary of the development site, and are shielded by other non-residential buildings, then an exceedance of the draft CoCP trigger levels may not occur. At the existing individual property The Woodman Public House on Curzon Street (CSV26-Do1) the draft CoCP trigger level is predicted to be exceeded during the day for two months in 2018 due to ground engineering works at the adjacent Curzon Street station.

- 4.4.6 The mitigation measures, including noise insulation, will reduce noise inside all dwellings, including those identified above, such that it does not reach a level where it would significantly affect¹ residents.

Residential receptors: direct effects –communities

- 4.4.7 The avoidance and mitigation measures in this area will avoid airborne construction noise adverse effects¹ on the majority of receptors and communities. Residual temporary noise or vibration effects are identified later in this section.
- 4.4.8 With regard to noise outside dwellings, the assessment of temporary effects takes account of construction noise relative to existing sound levels.
- 4.4.9 In locations with lower existing sound levels⁶, construction noise adverse effects¹ are likely to be caused by changes to noise levels outside dwellings. These may be considered by the local community as an effect on the acoustic character of the area and hence be perceived as a change in the quality of life. These adverse effects are considered to be significant when assessed on a community basis taking account of the local context⁶ as identified in Table 6.

⁶ Further information is provided in Volume 5: Appendix SV-001-000

- 4.4.11 Vibro-compaction is likely to result in appreciable ground-borne vibration at a small number of individual dwellings, situated closest to this activity, resulting in minor adverse effects at these properties⁷. These receptors will also be exposed to appreciable noise from the construction of the Proposed Scheme. The significance of the identified vibration effects has been assessed in combination with the airborne noise also identified at these receptors.
- 4.4.12 Table 6 presents a summary of the likely residual significant direct effects on residential communities. The typical and worst case construction noise levels are reported to the nearest 5dB. The number of dwellings in each community has also been rounded to the nearest 5-10 properties.

⁷ Resulting in a low probability of adverse comment. There is no risk of damage, even cosmetic, to buildings

Table 6: Direct adverse effects on residential communities and shared open areas that are considered to be significant on a community basis

Significant effect number	Type of significant effect	Time of day	Location	Cause (construction activities)	Assumed approximate duration of impact and details
CSV26-Co1	Construction noise	Day	Washwood Heath. Approximately 40 dwellings on Drews Lane	Site mobilisation, watercourse diversion, depot buildings, reprocessing of materials, with typical and highest monthly noise levels of around 60-65dB and 70dB ⁸ respectively.	Ranging from 6 to 24 months
CSV26-Co2	Construction noise	Day and Night	Washwood Heath. Approximately 250 dwellings on Warren Road, Common Lane, Pounds Green and Coronation Road during the day, around 40 of which also experience night-time effects	Day: fencing, utility diversions, demolition, depot buildings, landscaping/resoiling, reprocessing of materials and logistics and storage operations, with typical and highest monthly noise levels of around 60-70dB and 70-80dB ⁸ respectively. Night: tunnel portal sheet piling, with typical and highest noise levels of around 45dB and 55dB ⁹	Day: ranging from 1 to 65 months Night: 1 month
CSV26-Co3	Construction noise	Day	Saltley. Approximately 90 dwellings on Arley Road	Utility diversions, with typical and highest monthly noise levels of around 60dB and 75dB ⁸ respectively.	1 month
CSV26-Co4	Construction noise	Day and Night	Vauxhall. Approximately 50 dwellings on Northumberland Street	Day: Demolition and viaduct works, with typical and highest monthly noise levels of around 60 and 70dB ⁸ Night: Viaduct deck works with typical and highest noise levels of around 55dB and 65dB ⁹	Day: 9 months Night: 5 months
CSV26-Co5	Construction noise	Day and night	Vauxhall. Approximately 50 dwellings off Lawley Middleway during the night, around 20 of which also experience daytime effects	Day: Roadworks on Lawley Middleway, with typical and highest monthly noise levels of around 65 and 75dB ⁸ Night: Viaduct deck works, with typical and highest noise levels of around 50dB and 60dB ⁹	Day: 2 months Night: 5 months
CSV26-Co6	Construction noise	Day and night	Eastside. During the day approximately 2 existing dwellings off Penn Street, the Jennens Court student flats on	Day: Utility diversions, demolition, road works on Lawley Middleway and construction of the new Curzon Street station with typical and highest monthly noise levels of around 60-65 and 70dB ⁸ respectively	Day: Ranging from 7-20 months Night: 5 months

⁸ Daytime: equivalent continuous sound level at the facade, L_{pAeq, 0700-1900}⁹ Night-time: equivalent continuous sound level at the facade, L_{pAeq, 2300-0700}

			Etna Street and the proposed Eastside Locks mixed use development off Curzon Street, of which the 2 dwellings off Penn Street and the Eastside Locks development also experience effects at night	Night: Viaduct deck works, with typical and highest noise levels of around 55dB and 60dB ⁹	
CSV26-Co7	Construction noise	Day	Digbeth. Approximately 15 dwellings on Bordesley Street and New Bartholomew Street	Utility diversions, with typical and highest monthly noise levels of around 65 and 75dB ⁸ respectively	1-2 months

- 4.4.13 At properties on City View and Ashley Gardens, off Adderley Road in Saltley, represented by assessment locations 56716 and 56870, the night-time impact criterion is exceeded by 1dB for one or two months in 2018. Based on the low predicted construction noise levels and the limited magnitude and duration of the impact, a significant effect at these properties is not considered likely.

Residential receptors: indirect effects

- 4.4.14 Construction traffic is likely to cause adverse noise effects on residential receptors along the following local roads:

- Cardigan Street in Digbeth between Curzon Street and B4114 Jennens Road (CSV26-Co6). Any proposed residential receptors on the boundary of the Eastside Locks committed development with Cardigan Street are forecast to experience an increase in traffic noise levels during the peak months following the permanent closure of a section of Park Street. Increases in traffic noise levels of around 7dB are predicted on the southern half of Cardigan Street and around 4 dB on the northern half (further information is provided in Volume 2: Section 12 Traffic and transport); and
- Allison Street and Coventry Street between Allison Street and Meriden Street in Digbeth (CSV26-Co8). Residential buildings on these streets are forecast to experience a moderate increase in traffic noise levels of around 7dB, during the peak months due to localised re-routing of traffic to connect to/from New Canal Street (further information is provided in Volume 2: Section 12 Traffic and transport).

- 4.4.15 These adverse effects¹ would be a change in the acoustic character of the area¹ such that there is a perceived change in the quality of life. The effects are considered to be significant when assessed on a community basis taking account of the local context⁶.

4.4.16 Construction traffic is also likely to cause adverse or beneficial noise effects on residential receptors along the following local very busy roads:

- Aston Church Road between Warren Road and Washwood Heath Road in Washwood Heath; Melvina Road between A47 Saltley Road and B4132 Great Francis Street in Nechells Green; and Masshouse Lane between Albert Street and Moor Street Queensway in Eastside (CSV26-C09). Residential dwellings and buildings on these streets are forecast to experience an increase in traffic noise levels of around 2 to 3dB, during the peak months due to localised re-routing of traffic (further information is provided in Volume 2: Section 12 Traffic and transport); and
- B4114 Washwood Heath Road, between Aston Church Road and Alum Rock Road in Washwood Heath; B4114 Chapel Street between Jennens Road and Albert Street; and B4114 Park Street between Albert Street and Masshouse Lane, in Eastside (CSV26-C10). Residential dwellings and buildings on these streets are forecast to experience a minor decrease in traffic noise levels of between 2 and 3dB due to the localised re-routing of traffic (further information is provided in Volume 2: Section 12 Traffic and transport).

4.4.17 The small increases and decreases in sound level on these busy roads are considered to be significant at the identified receptors as they are already exposed to high ambient noise levels¹⁰.

Non-residential receptors: direct effects

4.4.18 Significant construction noise or vibration effects have been identified on a worst case basis on the following non-residential receptors the typical and worst case noise levels are reported to the nearest 5dB:

- Leigh Junior, Infant and Nursery School and Hasanat College, off Warren Road, Washwood Heath (CSV26-No1). Significant noise effects have been identified during the daytime with construction levels rising at times to around 65dB and 75dB⁸ respectively. Though typical levels are around 60 dB⁸. The rear of both the school and the college face onto the Washwood Heath depot site therefore a range of works at the depot contribute to the predicted construction noise levels, which exceed the impact criterion for a total of 54 and 49 months respectively. The highest noise levels are during the short term works to install solid hoarding on the southern boundary of the depot, and the demolition of existing buildings in close proximity to the boundary. The impact screening criterion is low at just under 60dB⁸, equal to the existing ambient measured at the rear of properties on Warren Road backing onto the depot site. Therefore, the duration of the actual impact, in terms of affecting activities at the school and college, is likely to be limited to a few months when works are at the closest approach. The height of the hoarding between the school and college and the depot site has been maximised to provide screening to the school and

¹⁰ 65 dB L_{pAeq,0700-2300} free-field during the day

college;

- Masjid Ali Mosque on Aston Church Road, Washwood Heath (CSV26-No2). Significant noise effects have been identified during the daytime with noise levels rising at times to around 75dB⁸ when utility diversion works on Aston Church Road are at the closest approach. Typical construction noise levels are around 70dB⁸. The duration of the impact is 5 months. The existing ambient noise levels are also around 75 dB⁸ at the façade facing onto Aston Church Road, therefore the adverse noise effect may be more limited than identified;
- The closest commercial units in Saltley Business Park and Network Park industrial estate to the works, including the offices of the Staffordshire and West Midlands Probation Service (CSV26-No3). Significant noise effects have been identified during the daytime with noise levels rising at times to around 80dB⁸. The significant effect is associated with works such as utility diversions, fencing and demolition of adjacent units when on-going in very close proximity. It has been assumed that the western façade of the buildings facing the works are in office use. Typical construction noise levels are between 65 and 70dB⁸. The duration of the impact is one to two months at the commercial units, at the Staffordshire and West Midlands Probation Service offices the duration is seven months when works are on-going at the entrance to the Saltley Business Park. The levels of construction vibration are also above the criterion for offices for short periods of time when vibro-compaction of earthworks is closest;
- Birmingham City Council (BCC) Museum Collections Centre, Dollman Street, Vauxhall (CSV26-No4). Significant noise effects have been identified during the daytime with noise levels rising at times to around 70dB⁸ due to a range of works mainly associated with the adjacent Curzon Street No. 1 viaduct. The duration of the impact is 30 months, though this is based on a fairly low screening criterion of just over 60dB⁸. The main building closest to the works is of an industrial nature constructed of metal cladding with no windows facing towards the works, and this should reduce internal construction noise levels. The structural fill earthworks associated with the Curzon Street No. 1 viaduct extend to within 15m of the southern corner of the BCC Museum Collections Centre. Although not operating as a museum open to the public full time, some items in the collection are on display and are vulnerable to vibration. Vibration adverse effects are forecast for short periods of time when vibro-compaction of earthworks is at its closest location to the building. Close liaison with BCC will be carried out to ensure any vulnerable items are suitably protected for the short duration of vibro-compaction works in close proximity to the building;
- various commercial and industrial premises to the north of the route between Erskine Street and the A4540 Lawley Middleway including the West Midlands Fire Service Headquarters office building (CSV26-No5). Significant noise effects have been identified during the daytime with noise levels rising at times to around 75 to 80dB⁸. Typical construction noise levels are around 65dB⁸. At the commercial units, which are assumed to be in office use,

demolition of adjacent units is the source of the effect for around two months. At the West Midlands Fire Service Headquarters a range of works at the adjacent Curzon Street No. 2 and No. 3 viaducts are the source of the effect for around five months. The Proposed Scheme earthworks extend to approximately 10m of the rear aspect of the West Midlands Fire Service Headquarters. Vibration adverse effects are forecast for short periods of time when vibro-compaction of earthworks is at its closest location to the office building;

- Safeside educational facility, operated by the West Midlands Fire Service, Vauxhall (CSV26-No6). Significant noise effects have been identified during the daytime with noise levels rising to just under 80dB⁸ during the short term installation of fencing along the rear façade of the building. Nearby demolition works also result in a significant daytime effect with noise levels rising to just under 70dB⁸. Typical construction noise levels are around 60dB⁸, the duration of the impact is four months. The Safeside facility is an industrial style building with no apparent openings on the façade facing the construction works, and this should reduce internal construction noise levels;
- Professional Music Technology premises, A4540 Lawley Middleway (CSV26-No7). Significant noise effects have been identified during the daytime with noise levels rising to just over 75dB⁸ due to demolition of adjacent buildings and utility diversions and road works on the adjacent A4540 Lawley Middleway. The studios are located on the ring road where existing daytime ambient noise levels are just under 70dB⁸ which suggests the studios are designed to mitigate high external noise levels;
- Millennium Point, the Parkside Building (containing the Institute of Art and Design and the School of Media) and the adjacent proposed Birmingham City University buildings and hotel at the Eastside Locks committed development (CSV26-No8). Significant noise effects have been identified during the daytime with noise levels rising to around 70dB⁸ due to a range of works associated with the new Curzon Street station and Curzon Street No. 3 viaduct, plus demolition and utility works. Typical daytime construction noise levels are around 65dB⁸, the duration of the impact is 71 months, though this is based on a criterion equal to the existing fairly low ambient levels of around 60dB⁸. At night a significant noise effect on the proposed hotel has been identified with noise levels rising up to around 60dB⁹, due to works to install the deck of the Curzon Street No. 3 viaduct over the A4540 Lawley Middleway and Digbeth Branch Canal. Typical night-time construction noise levels are around 55dB⁹, the duration of the impact is 5 months, though this is based on a criterion equal to the existing fairly low ambient levels of just over 50dB⁹. Millennium Point contains a wide range of uses including a cinema, educational facilities, the Think Tank science museum and various commercial and retail uses. The adjacent Parkside Building is an educational facility operated by Birmingham City University. The effect on activities inside the buildings will depend on the exact usage and construction of the buildings along the south facade facing the works. Limited details are available regarding the proposed new university

buildings and Eastside Locks development, the position of the hotel within the site is not finalised, if it set back from Curzon Street within the development a significant night time effect is unlikely;

- Hotel La Tour, B4100 Moor Street Queensway (CSV26-No9). Significant noise effects have been identified during the daytime with noise levels rising to just over 75dB⁸ due to short term utility diversions immediately adjacent to the south-east façade of the hotel. Existing daytime ambient noise levels in this area are just less than 70 dB⁸. Typical construction noise levels are around 65dB⁸, the duration of the impact is three months;
- Carrs Lane Church and St Michaels Church, on B4100 Moor Street Queensway (CSV26-No10). Significant noise effects have been identified during the daytime with noise levels rising to just under 75dB⁸ due to a range of works at the new station including demolition, utility diversions and ground engineering works. The affected facades face onto the busy B4100 Moor Street Queensway where existing daytime ambient noise levels are just less than 70dB⁸. Typical construction noise levels are around 65dB⁸, the duration of the impact is five months;
- the Taboo Cinema on Park Street (CSV-No11). Significant noise effects have been identified during the daytime with noise levels rising to over 75dB⁸ due to a range of works at the proposed Curzon Street station including demolition, utility diversions, ground engineering works and works below ground. Typical construction noise levels are around 65dB⁸, the duration of the impact is 12 months. Existing daytime ambient noise levels are just under 70dB⁸ in this area and the cinema does not have any windows on the façade facing the works, therefore the effect on the premises may be limited; and
- The Polish Centre, Bordesley Street (CSV-N12). Significant noise effects have been identified during the daytime with noise levels rising to around 75dB⁸ due to a range of works at the proposed Curzon Street station including demolition, utility diversions, ground engineering works and works below ground Typical construction noise levels are around 65dB⁸, the duration of the impact is 12 months. Though, as the main usage of the club is likely to be during the evenings and weekends the impact of construction noise on activities inside the building may be limited.

4.4.19 At the Bethel Free Baptist Church, Ward End Road, Washwood Heath, represented by assessment location 700518, daytime construction noise levels are predicted to exceed the impact criterion. The exceedance is due primarily to the operation of the logistics and storage area and the reprocessing of materials area at the Washwood Heath depot, which are on-going for the majority of the depot works. These activities are ongoing during the daytime only, which would not affect the main usage of the church at evenings and weekends. In addition, based on the brick structure of the church with limited glazing, the predicted construction noise levels are considered unlikely to cause undue disturbance to activities inside the church. A significant effect has therefore not been identified at the church.

- 4.4.20 At the Saltley Baptist Church, George Arthur Road, represented by assessment location 54867, construction noise levels are predicted to be a 2 to 4 dB above the significance criteria for three months commencing in 2017 due to utility diversion and demolition works. However, based on the limited magnitude and duration of the exceedance, the usage of the church predominantly at evenings and weekends and the low construction noise levels, a significant effect is considered to be unlikely. Similarly at the nearby Adderley Children's Centre, St Saviours Road, represented by assessment location 54833, construction noise levels 2dB above the impact criterion are predicted for one month in 2017 due to demolition works. Based on the small magnitude and duration of the exceedance a significant effect is considered to be unlikely at the centre.
- 4.4.21 At St Vincents School, Vauxhall Grove, represented by assessment location 51868, the daytime impact criterion is exceeded by 1dB for one month in 2017. Based on the limited magnitude and duration of the exceedance a significant effect is considered to be unlikely at the school.
- 4.4.22 At assessment location 46410 the daytime impact criteria for a hotel and place of worship is exceeded by 1dB for one month in 2017. This assessment location is used to represent a range of buildings including the Crown Hotel on Corporation Street and the Central Methodist Church on Dalton Street. However, as both these sensitive receptors are located considerably further away from the works than the assessment location, and the criterion is only exceeded by 1dB at the assessment location, no significant effect has been identified at these receptors.
- 4.4.23 At the commercial premises on the junction of Aston Church Road and Arley Road, A4540 Lawley Middleway, and in the vicinity of Moor Street Station, represented by assessment locations 700511, 52180 and 41993 respectively, the impact criterion for offices is exceeded by 1 to 3dB for two to five months. Based on the industrial rather than office type uses of the premises, the limited magnitude and duration of the exceedance, and the existing high ambient noise levels in these areas, a significant adverse effect is considered to be unlikely at these premises.

Non-residential receptors: indirect effects

- 4.4.24 Construction traffic is likely to cause significant indirect noise effects at non-residential receptors along the following local roads:
- B4114 Saltley Viaduct and High Street between A47 Heartlands Parkway and B4114 Washwood Heath Road, in Washwood Heath, affecting various commercial and office premises which face onto the road (CSV26-N13). A temporary beneficial effect is forecast, with the major decrease in traffic noise levels during the temporary closure of B4114 Saltley Viaduct leading to a reduction in road traffic noise of over 10 dB, (further information is provided in Volume 2: Section 12 Traffic and transport);
 - Cardigan Street in Birmingham city centre, between Curzon Street and the B4114 Jennens Road, affecting the east façade of the Parkside Building (containing the Institute of Art and Design and the School of Media), the proposed new Birmingham City University buildings and the proposed mixed

use Eastside Locks committed development on the boundary with Cardigan Street (CSV26-No8). An adverse effect is associated with a moderate increase in traffic noise levels of around 7dB on the southern half of Cardigan Street and a minor increase of around 4dB on the northern half, during the peak months following the permanent closure of a section of Park Street (further information is provided in Volume 2: Section 12 Traffic and transport). Cumulative effects due to both direct and indirect noise effects may occur at the southern end of Cardigan Street closest to the Curzon Street station works ;

- Allison Street and the section of Coventry Street between Allison Street and Meriden Street in Birmingham city centre affecting various commercial premises (CSV26-N14). An adverse effect is associated with a moderate increase in traffic noise levels of around 7dB, during the peak months due to the localised re-routing of traffic to connect to/from New Canal Street (further information is provided in Volume 2: Section 12 Traffic and transport);
- Bordesley Street in Birmingham city centre between New Canal Street and New Bartholomew Street affecting various adjacent commercial premises (CSV26-N15). A beneficial effect is associated with a moderate reduction in traffic noise levels of around 7dB due to the local re-distribution of traffic (further information is provided in Volume 2: Section 12 Traffic and transport);
- Melvina Road between A47 Saltley Road and B4132 Great Francis Street, in Nechells; Adderley Road between Crawford Street and Ash Road, in Saltley (CSV26-N16); B4100 Moor Street Queensway between Carrs Lane and Albert Street (CSV26-N10); and Curzon Street east of New Canal Street, in Eastside (CSV26-No8). Various receptors on these streets, mainly consisting of commercial premises, but also including the Nechells Green Community Centre on Melvina Road, Adderley Children's Centre off Adderley Road, Carrs Lane Church Centre and St Michaels Church on B4100 Moor Street Queensway, and Millennium Point on Curzon Street are forecast to experience a minor increase in traffic noise levels of around 2dB due to localised re-routing of traffic (further information is provided in Volume 2: Section 12 Traffic and transport). Cumulative effects due to both direct and indirect noise effects may occur at receptors on Curzon Street and B4100 Moor Street Queensway closest to the Curzon Street station works; and
- Washwood Heath Road, between Aston Church Road and Adderley Road, in Washwood Heath (CS26-N17). Various receptors on this road, mainly consisting of commercial premises, but also including the Al-Huda school and the Madrasa Anjuman-I-Naqeeb-al-Islam community centre are forecast to experience a minor decrease in traffic noise levels of around 2dB, due to the localised re-routing of traffic (further information is provided in Volume 2: Section 12 Traffic and transport).

4.4.25 Erskine Street and the access off Duddeston Mill Road are used as access points into construction compounds therefore there is no corresponding baseline traffic data available. However, based on the low predicted construction traffic noise levels and

the industrial nature of the surrounding areas a significant effect has not been identified.

4.4.26 The predicted increase in traffic noise levels at the north end of Andover Street and on Banbury Street have not been identified as resulting in a significant effect at adjacent receptors. This is due to the overall baseline measured ambient noise levels in the vicinity being rather higher than both the predicted baseline and with construction traffic noise levels on these roads alone. In these locations the contribution from traffic on other nearby more major roads is likely to mask any change in local traffic noise levels.

4.4.27 Based on the magnitude of the change and the nature of the surrounding area a significant effect (adverse or beneficial) has not been identified along the following road links:

- the accesses into Moor Street car park;
- Aston Church Road between A47 and Arley Road;
- A47 Heartlands Parkway between Saltley Road and Aston Church Road;
- Duddeston Mill Road between Adderley Road and Inkerman Street;
- Montague Street between A4540 Lawley Middleway and Derby Street;
- Fazeley Street between New Canal Street and Heath Mill Lane;
- Floodgate Street between Fazeley Street and Little Ann Street;
- Moore's Row between Milk Street and Floodgate Street;
- B4100 Moor Street Queensway, St Martins Queensway to Carrs Lane, and north of Albert Street; and
- Moor Street.

Cumulative effects from the Proposed Scheme and other committed development.

4.4.28 This assessment has considered the potential cumulative construction noise effects of the Proposed Scheme and other committed developments¹¹. In this area, it is not anticipated that there will be any developments built at the same time as the Proposed Scheme and accordingly, construction noise or vibration from the Proposed Scheme is unlikely to result in any significant cumulative noise effects.

¹¹ Volume 5: Appendix CT-004-000 sets out the list of committed developments.

5 References

Birmingham City Council, (2005), *Birmingham Unitary Development Plan*.